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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**MAKING THE CASE: WHAT IS THE PROBLEM WITH
TARGETED KILLING?**

by

Andrew W. Boyden

Phillip P. Menard

Robert Ramirez

December 2009

Co-Advisors:

David Tucker

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**MAKING THE CASE: WHAT IS THE PROBLEM WITH TARGETED
KILLING?**

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ABSTRACT

What is the problem with targeted killing? The problem is not simply the legal and moral grounds for the policy, nor the tactical implementation of the policy. Rather, the problem is that current research does not convincingly articulate the causal relationships of a targeted killing program. In this thesis, we propose a six-step methodology with an embedded robust analytic framework for determining those relationships and, ultimately, the effectiveness of targeted killing. By analyzing Israel's program during the Second Intifada, this thesis demonstrates a causal understanding of whether targeted killing is efficacious. While we ultimately conclude that targeted killing was not effective during the Second Intifada, our analysis provides insight into the effectiveness of targeted killing—findings that can be used by a state to determine whether the costs of targeted killing are worth bearing.

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EXECUTIVE SUMMARY

Our original interest in this topic stemmed from the fact that the current arguments regarding the efficacy of targeted killing do not address a host of questions central to issue. What effects does a state hope to achieve with targeted killing? How, then, does a state measure the success or failure of targeted killing? What are the causal mechanisms involved in targeted killing? And if these questions go answered, why would a state continue to prosecute such a line of operation without understanding its effects or where it fits within a broader counterterrorism strategy?

We began this thesis with the general premise that Israel's program of targeted killing suffers from a lack of understanding concerning the effects and effectiveness of such a program. The current literature makes claims that are not fully supported. Critics of the program offered evidence that the program is illegal, immoral or ineffective. Proponents of the program provide evidence to the contrary. Ultimately, however, we claim that the state of the current literature hinted at the complex and tangled reality of targeted killing efficacy—a reality that requires further study.

Moving forward from the premise of a case not fully made, we introduce a methodology for untangling the interrelated nature of the various Israeli lines of operation and the environmental factors that impact the levels of Palestinian attacks during the Second Intifada. Our six-step methodological framework—backed by a robust analytic process—enables an examination of the effectiveness of Israel's targeted killing program.

While our analysis indicates targeted killing seems to be ineffective in this Israeli case study, we believe the development and application of our methodological process may be more important than simply concluding whether targeted killing is effective or not. At a minimum, we have laid the groundwork of a methodology for actually thinking through the problem. We leave it to future researchers to test our process against other cases to determine a more broad applicability of our methodology. Future tests may determine that targeted killing is effective in certain cases. Therefore, we suggest future

applications of such a methodology are critical to both understanding the effects of such a program as well as drawing more universal conclusions on the efficacy of targeted killing.

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As with most endeavors, the construction of this thesis was truly a team effort and could not have been accomplished without the unique contributions of myriad individuals. We hesitate to single out people here, for fear of not being inclusive enough. But to ignore this opportunity to formally thank certain contributors would be worse.

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I. CURRENT THOUGHT ON TARGETED KILLING

A. INTRODUCTION

Much time and space is given to the myriad criticisms of targeted killing.¹ Opponents challenge the effectiveness of a state's policy of targeted killing by claiming it is immoral, illegal, counterproductive, and flawed. Certainly, the moral and legal bases for targeted killing are very important considerations when arguing for the use of that kind of program. But the claims of efficacy, thus far unsubstantiated by research, serve to pose much more problematic roadblocks to the utility of targeted killing. Addressing this argument lays the burden of proof on the proponents of targeted killing to produce some measure, some metric, that convincingly demonstrates that targeted killing works. Absent this conclusion, we have to question why a state would incur the costs of a program that cannot be proven to achieve its desired effects.

States presumably use targeted killing in an attempt to achieve some set of desired effects. What is fundamentally unclear is just what those desired effects are and why targeted killing is the vehicle by which the state has chosen to achieve them. If we are to make the claim that targeted killing is a useful strategy, we need to know why. At a minimum, we need to be able to identify and explain those cause and effect relationships that determine whether targeted killing is actually behind the effects being observed. It may very well be the case that targeted killing is the most useful tool in the counterterrorism kit. But the way the current arguments are presented, there are too many questions left unanswered to draw this conclusion. And the conclusions drawn, at best, prove only a correlation between targeted killing and some observable effects.

¹ In this thesis, we borrow the Israeli term "targeted killing" to refer to a state-sponsored program designed to eliminate specific enemy personnel (terrorists, insurgents, combatants, enemy leadership, *inter alia*). We are *not* referring to assassination, which is traditionally reserved for those actions directed against heads-of-state, and which is illegal under U.S. Executive Order 12333. In U.S. parlance, targeted killing falls under the defined special operations task of direct action (see U.S. Joint Chiefs of Staff, "Joint Publication 3-05: Doctrine for Joint Special Operations," Washington, D.C., December 17, 2003, II-4-II-6, http://www.dtic.mil/doctrine/jel/new_pubs/jp3_05.pdf (accessed October 31, 2009)).

B. BACKGROUND

Several articles addressing Israel's targeted killing program have been written both during and after the Palestinian Second Intifada.² Additionally, articles concerning the use of targeted killing have been published that explore legal, moral, and pragmatic concerns.³ This body of work has been carefully crafted to argue either for or against a policy of targeted killing. In some cases, empirical evidence has been compiled to make the case that targeted killing is useful, with the same data being used to argue against targeted killing. While simultaneously insightful and confusing, the subject of targeted killing has a serious problem that is consistently ignored. The problem is that the strategic question of what utility targeted killing actually provides a state is often left unanswered or answered in a way that suggests causality, yet offers only a correlation between targeted killings and other events. Is this confusion necessary? Can causality be determined? Should targeted killing be used if a state does not know whether or why it works?

Addressing the above questions is difficult given the current available literature. This thesis begins with a review of the literature on targeted killing. Though other manuscripts exist, we will examine three particular documents in an attempt to draw lessons that may provide a foundation for further research. The articles are Daniel

² Though not an exhaustive list, the following articles were also reviewed for unique contributions to the discussion: Steven R. David, "Fatal Choices: Israel's Policy of Targeted Killing," *Mideast Security and Policy Studies* No. 51 (2002): 1-26, <http://www.biu.ac.il/Besa/david.pdf> (accessed March 8, 2009); Gal Luft, "The Logic of Israel's Targeted Killing," *The Middle East Quarterly* X, 1 (Winter 2003), <http://www.meforum.org/515/the-logic-of-israels-targeted-killing> (accessed March 8, 2009); Michael Eisenstadt, "Pre-Emptive Targeted Killings As a Counter-Terror Tool: An Assessment of Israel's Approach," *Peacewatch*, The Washington Institute for Near East Policy, Washington D.C., 28 August 2001; Ward Thomas, "The New Age of Assassination," *SAIS Review* XXV, 1 (Winter 2005): 27-39, http://muse.jhu.edu/journals/sais_review/v025/25.1thomas.pdf (accessed March 8, 2009), among others. The papers reviewed suffered from greater or lesser degrees of the privations this thesis argues must be corrected in order to know the effects when targeted killing is conducted. Without this knowledge, targeted killing will continue to be misused and misunderstood.

³ Besides the Cullen article referenced in this thesis, others have made arguments for and against the legal and moral legitimacy of such programs, as well as deconstruction of the legal framework for the U.S. program. One example of a far more in-depth review of the legal framework for the U.S. targeted killing policy is William C. Banks and Peter Raven-Hansen, "Targeted Killing and Assassination: The U.S. Legal Framework," *University of Richmond Law Review* 37, no. 3 (March 2003): 667-688. Additionally, Glenn Johnson "Mortis Discriminatus: Procedures in Targeted Killing," Naval Postgraduate School Thesis, 2007 provides a treatment of legal foundations for operational decision making for U.S. forces who may be assigned targeted killing missions.

Byman's "Do Targeted Killings Work?";⁴ Peter M. Cullen's "The Role of Targeted Killing in the Campaign Against Terror";⁵ and three articles by teams led by Edward H. Kaplan from 2005,⁶ 2006⁷ and 2007.⁸ Each article has strengths and brings important issues to the fore. The intent of this review is to critically examine the thesis of each, determine if it provides insight into why targeted killing works or does not work, and explore what additional data or analysis may be needed to determine causal factors in the efficacy of a program of targeted killing.

This thesis will argue that these articles, while well thought out and seductively argued, do not clearly identify critical elements of analysis—or bury them in other facets of analysis—thus missing causal relationships between targeted killing operations and the state's desired strategic goals. A discussion of a possible alternative methodological approach to the problem of causal relationship determination follows the literature review. The thesis concludes with the application of this alternative methodology to Israel's experience with targeted killing during the Second Intifada, with the intent of analyzing the effectiveness of the Israeli program of targeted killing. As part of this exploration, our thesis will seek to apply the results of our analysis in order to understand what may be necessary to understand the effects of Israel's targeted killing program.

C. HYPOTHESIS

Targeted killing operations produce effects that can be analyzed in detail. The results of such an analysis can be used to provide a state with the understanding to make informed decisions regarding continued employment of these operations.

⁴ Daniel Byman, "Do Targeted Killings Work?" *Foreign Affairs* 85, no. 2 (March/April 2006): 95, <http://proquest.umi.com> (accessed November 10, 2008).

⁵ Peter M. Cullen, "The Role of Targeted Killing in the Campaign Against Terror," *Joint Forces Quarterly*, 48 (1st Quarter 2008): 22-29, <https://nps.blackboard.com> (accessed November 8, 2008).

⁶ Edward H. Kaplan, et al., "What Happened to Suicide Bombings in Israel?: Insights from a Terror Stock Model," *Studies in Conflict and Terrorism*, 28 (2005): 225–235.

⁷ Edward H. Kaplan, Alex Mintz, and Shaul Mishal, "Tactical Prevention of Suicide Bombings in Israel," *Interfaces* 36, no. 6 (November / December 2006): 553–561.

⁸ Daniel Jacobson and Edward H. Kaplan, "Suicide Bombings and Targeted Killings in (Counter-) Terror Games," *Journal of Conflict Resolution* 51, no. 5 (October 2007): 772–792.

It is our contention that a robust understanding of the effects of targeted killing is possible and that such an understanding provides a state with the discernment to choose whether to employ such operations. We assert that use of the methodological framework introduced in this chapter, in tandem with the analytical tools used in Chapters II and III, allows for a detailed analysis of the effects of targeted killing and the other lines of operation that a state may employ. The relative impact of each line of operation allows a state to understand which line of operations aid attainment of state goals and which do not. Given this understanding, a state can then make rational decisions based on the effects of each available line of operation—even if the decision is to assume risk by employing operations that may work against stated objectives.⁹

D. LITERATURE REVIEW

1. Daniel Byman: Targeted Killing Degrades Terrorist Capabilities

Daniel Byman argues that Israel’s policy of pre-emptive targeted killing is a causal factor in the reduction in efficacy of Palestinian terrorist organizations’ suicide bombing attacks.¹⁰ What’s wrong with this argument? After all, the author cites statistics¹¹ that seemingly prove that after Israel instituted its current program, Palestinian groups such as HAMAS and Palestinian Islamic Jihad were unable to continue to use suicide bombing as effectively as during the first intifada or even the first two years of the Second Intifada. If this program is so effective and targeted killing is the *causal factor* in the reduction of Israeli casualties on a per-unit basis, why should the U.S. or other states not pursue the same strategy?

Evaluating Byman’s argument presents some questions: First, what is Israel’s strategic goal? Furthermore, does targeted killing contribute to that goal? In other words, is this targeted killing program effective? Byman’s argument appears to be that Israel simply wants to halt the killing of Israeli citizens by suicide attack. The targeted

⁹ We use “lines of operation” throughout this thesis in a non-technical sense—meaning the ways and means a state attempts to achieve the desired end state in a given strategy.

¹⁰ Daniel Byman, “Do Targeted Killings Work?” 95.

¹¹ Daniel Byman, “Do Targeted Killings Work?” 95.

killing program used from the 1970s through the end of the first intifada did not do this effectively. Byman argues that this program was not effective because its pace was insufficient to stop effective suicide attacks.¹² The targeted killing program used during the Second Intifada did work, Byman argues, because targeted killings were sufficiently rapid to reduce the number of Israelis killed on a per unit basis.¹³ This argument is seductive because it would have the reader believe that a targeted killing program *can* solve the problems of the state through a relatively simple formula: kill the right bad guys fast enough and the strategic problems of the state go away. The use of statistics makes this assertion all the more persuasive. Yet, one wonders, did Israel do anything else during the Second Intifada that also proved useful? More importantly, what would have been the results if the other factors were used *without* a program of targeted killing? Did targeted killing reduce the number of possible operatives? Did it solve the long term problem that Israel seeks to solve?

Byman's analysis does not provide a clear case for establishing targeted killing as *causal* in the reduction of the Palestinian threat to the state of Israel. This is this case for several reasons. First, Byman does not show detailed analysis that demonstrates a temporal-spatial awareness of the several variables involved in the Israeli-Palestinian conflict. For example, Byman's analysis does not convincingly make the case that targeted killing and not, for example, the security wall construction that was ongoing during the Second Intifada, was causally responsible for the decline in the effectiveness of each suicide attack. Byman instead argues that the security wall was complementary to the targeted killing program. This claim suggests that the targeted killing is sufficient and that the wall was an enabling tool. While this may be true, the article does not explore the relationship of these variables. The article also does not address how arrests and targeted killing are interrelated. Byman cites the Cambridge HAMAS Expert Khaled Kroub stating, "On the ground, there is no question that HAMAS has been seriously weakened by the decimation of its ranks through assassination [targeted killing] and

¹² Daniel Byman, "Do Targeted Killings Work?" 95.

¹³ Daniel Byman, "Do Targeted Killings Work?" 95.

arrest.”¹⁴ While the fact that HAMAS has been weakened is certainly good news for Israel, Byman does not then explore which, arrest or targeted killing, actually caused the decimation and which supported it. No doubt, both had a role to play, but in order to apply such a program, a state should understand—at a minimum—the relative effects of each strategic operation.

In the Byman article, no consideration is given to the notion of second- and third-order effects such as increased recruitment or retaliatory attacks. As Kaplan et al. have asserted, and will be discussed below in more detail, the terror stock model indicates each successful Israeli targeted killing operation serves to increase the number of follow-on attacks. Yet, neither Kaplan nor Byman link this relationship to a temporal or spatial discussion of how a targeted killing impacts the *quality* of follow on attacks. Though both authors hint at this relationship, neither adequately addresses this unique interdependent relationship among the set of variables. In other words, even though the raw data may suggest targeted killings are effective or not effective based on numbers of attacks following an Israeli operation or that, in aggregate, the efficacy of Palestinian operations is declining, what is the temporal-spatial relationship of these variables? Can readers draw out conclusions of causality from either Byman or Kaplan? The arguments are both seductive in their use of statistics to legitimize their claims, but fail to guide the reader to a strategic conclusion with respect to the utility of such a program. Simply put, both authors leave variables or relationships on the table with varying degrees of neglect.

To be fair, Byman points out that a number of variables were in play during the Second Intifada. Byman mentions the security wall, improved intelligence networks, economic sanctions, and increased rates of arrest.¹⁵ While Byman recognizes the need for a comprehensive strategy, his argument is ultimately unsatisfying because the reader is left to wonder what *actually* worked to reduce the efficacy of suicide attacks during the Palestinian Second Intifada. Unlike the Kaplan articles discussed below, the use of statistics in this article only serve to highlight the weakness of Byman’s *ad hoc* account linking targeted killing with reduced Palestinian effectiveness. To understand this

¹⁴ Daniel Byman, “Do Targeted Killings Work?” 95.

¹⁵ Daniel Byman, “Do Targeted Killings Work?” 95.

relationship, one needs to more clearly understand at least the following points: 1) What are the variables at work? 2) What effect does each line of operation have on these variables independently? 3) What is the cumulative effect, over time, of varying combinations of strategies? 4) Understanding cause and effect independently, what effects are produced when an element is removed from the combination? Byman's article does not adequately provide this understanding.

2. Peter Cullen: Targeted Killing Works, Even Absent Metrics

How does Cullen address targeted killing? Cullen gives an account of the legal, moral and pragmatic aspects of targeted killing.¹⁶ Though the legal and moral accounts are convincing, ultimately, only the utility section of his argument is germane for this thesis. Does Cullen adequately address the causal relationships involved in use of targeted killing? We argue that he does not. Though Cullen's paper leans heavily on justifications of targeted killing on legal and moral grounds, we argue that such an analysis, while useful for justifying the *existence* of such programs, does little to justify the *employment* of targeted killings. While a state may have the right to do so, use of targeted killing is fundamentally inappropriate if the results do not enable achievement of strategic ends.

So, does Cullen adequately address the efficacy of such a program? The short answer is no. Cullen harkens back to legal and moral questions in the section devoted to arguing for the pragmatic aspects of such a program.¹⁷ Tellingly, Cullen makes two claims that undermine his claim for targeted killing efficacy. The first, "There are no metrics to measure the effectiveness of targeted killing."¹⁸ This statement ought to be a cautionary tale for U.S. policy makers. If we have no way to know if targeted killing is effective, why use it? Could we not argue that using lines of operation for which there is no plausible gauge of efficacy is not only counter-intuitive, but also lends itself to application of strategic "wishful thinking" that has caused so much harm to the international reputation of the U.S. in the past?

¹⁶ Peter M. Cullen, "The Role of Targeted Killing," 22.

¹⁷ Peter M. Cullen, "The Role of Targeted Killing," 26.

¹⁸ Peter M. Cullen, "The Role of Targeted Killing," 26.

Cullen goes on to assert, “More time may be needed before it is possible to evaluate the cumulative impact of the policy. It is clear, however, that targeted killing has at least contributed to a cessation of AQAM [al Qaeda Affiliated Movements] attacks on U.S. territory.”¹⁹ Though true that no additional attacks have been conducted on U.S. territory, if Cullen asserts that no metrics exist, how can he then claim that targeted killings have contributed to the cessation of attacks on U.S. territory? This is at best unknowable if no metrics exist and at worst misleading—particularly if targeted killing is actually making matters worse for other strategies currently being pursued. For example, if a targeted killing operation by one governmental agency actually retards productive capture operations by another agency, this seemingly detracts from the overall U.S. strategic effort—particularly if Cullen’s assertion is true that no metric currently exists for measuring targeted killing efficacy and the cumulative effect of targeted killing operations is unknown.²⁰

On the other hand, these claims are useful if they spark an effort to more carefully analyze existing data or spur research to collect new data that can provide the foundation for analysis to determine the actual impact of U.S. targeted killings in the U.S. Long War. In order to do so, what might we need to know to more fully explain Cullen’s assertions? First, we would want data that links the effects of targeted killing to time, space and relationships. This data would allow for informed analysis regarding recruitment and follow on attacks. Second, data is needed that identifies why the individual was targeted. This information could presumably provide the basis for an examination of the strategic intent and whether this goal was achieved. Third, given information on the actual target, data covering the individual’s place in the terrorist organization’s network would be useful. In utilizing this data, one may better determine what effects targeted killing may have on the network—given that individual’s centrality or criticality in the network—and, when combined with the information on recruiting and follow on attacks, what effects may be achieved on the support mechanisms for the network. Finally, provided the above information, a detailed analysis of the impact of targeted killings vis-à-vis U.S.

¹⁹ Peter M. Cullen, “The Role of Targeted Killing,” 26.

²⁰ Peter M. Cullen, “The Role of Targeted Killing,” 26.

strategic interests could drive discussions to build the measures of effectiveness that Cullen notes are currently lacking.

3. Edward Kaplan, et al.: Targeted Killing Creates More Terrorists

Turning to the series of articles by Kaplan's groups provides the reader with a highly detailed mathematical model for analyzing the effects of targeted killing over time. When compared to the Byman or Cullen articles, the Kaplan teams' articles utilize a more robust methodology that includes a statement of the problem, a modeling process to explain the current reality and a careful analysis of the available data. While Kaplan's modeling can be difficult for many readers, the major themes are revealing and deserve careful consideration as the models appear to reveal some surprising insights. The 2005 Kaplan piece provides a modeling of the concept of terror-stock modeling that concludes that arrests result in greater utility for Israel in reducing the terror stock when compared to targeted killing.²¹ The 2006 article builds on this model while analyzing the data using shot-noise techniques that result in conclusions similar to the 2005 article.²² Finally, the 2007 article builds on these models to produce a game theory approach to the Levant problem that concludes that an optimal approach (depending on desired strategic outcomes) can be derived through game theory in n-period games.²³ This thesis does not address all three articles and will focus on the 2005 article, as it provides similar conclusions to the 2006 article, while providing the foundation for a mathematical approach to analyzing the data from the Israeli-Palestinian conflict.

The major premise in Kaplan's article is that successful Israeli targeted killing operations result in a marked increase in recruitment for Palestinian terrorist organizations while arrests have been more successful in reducing attacks and recruitment.²⁴ The authors' analysis indicated that the effects of collateral damage were actually helpful to the Israeli cause—though the cause of this phenomenon is still

²¹ Edward H. Kaplan, et al., "What Happened?" 225–235.

²² Edward H. Kaplan, Alex Mintz, and Shaul Mishal, "Tactical Prevention of Suicide Bombings," 553–561.

²³ Daniel Jacobson and Edward H. Kaplan, "Suicide Bombings and Targeted Killings," 772–792.

²⁴ Edward H. Kaplan, et al., "What Happened?" 225.

unclear.²⁵ Does this argument suggest that targeted killing, vice “targeted” arrests, should cease? It appears to. Yet, does this argument also convincingly prove causality? We argue that it does not.

The authors arrive at their conclusion through very detailed analysis, yet when reviewing the foundation of their argument readers may notice an assumption that may inhibit the ultimate utility of their argument. Kaplan claims there is no way to quantify the terror-stock size.²⁶ This is a curious baseline given the mathematical formula implies recruitment as a function of the size of the terror-stock model from the previous day. The modeling results suggest a spike in recruitment following a successful targeted killing operation.²⁷ Additionally, the expected rate of suicide attacks is also modeled using the size of the terror stock. Again, not knowing the size of the terror stock appears to cast doubts on the model’s ability to adequately understand causal relationships. For example, retaliatory suicide bombings may have actually been latent capacity within the terrorist organization that is unleashed in response to other factors—the targeted killing might be time coincident and not causal. Even if one assumes the model perfectly fits the data (that, not coincidentally, it does), the reader is left with the impression that the only variables involved in recruitment of terrorists are the interplay of suicide bombing attacks and Israeli efforts to either kill or capture these bombers. Is this always the case?

While any mathematical model, to be useful, must seek to simplify reality by making assumptions, the reader must be careful to critically evaluate the context during the period covered by the model. In this case, the early years (2000 through 2003) of the Second Intifada serve as this context. During these years, Israel employed a more concerted and aggressive capture or kill strategy than employed during the first intifada. At the same time, Israel also adjusted its overall strategy to include the construction of the Anti-Terrorist Fence²⁸ and increased the use of sanctions. The reader may wonder

²⁵ Edward H. Kaplan, et al., “What Happened?” 230.

²⁶ Edward H. Kaplan, et al., “What Happened?” 226.

²⁷ Edward H. Kaplan, et al., “What Happened?” 230.

²⁸ Israel’s Anti-Terrorist Fence is referred to by a host of names to include: barrier, wall, security fence, separation fence, *inter alia*. Throughout this thesis we use the Israeli Ministry of Foreign Affairs nomenclature, “Anti-Terrorist Fence” (or in some cases, just “Fence”).

whether the Kaplan analysis does not suffer a bit from a *post hoc ergo propter hoc* fallacy. The rise in recruitment following a successful targeted killing may not be driven by reaction to the targeted killing—either primarily or at all. This distinction is not mere semantics. The allure of the Israeli targeted killing model vis-à-vis the U.S. Long War is that such a program appears to leaders to be a high payoff tactic that eliminates dangerous terrorists while simultaneously limiting exposure of U.S. forces. Could Kaplan’s terror-stock modeling drive us to abandon targeted killing? It could. Would this be a strategic mistake? Possibly—yet Kaplan’s thesis at least reinforces that strategic calculations must address whether such a program is counterproductive. Nevertheless, though the Kaplan model has a near perfect fit for the data, the reader is left with the sense that the model was constructed to fit the data and the causal relationship for the recruitment results may be hidden by the answer the model provides.

E. AN ALTERNATIVE METHODOLOGY

As has been argued in the above paragraphs, a methodology for effectively gauging the utility of targeted killing does not exist. A review of the literature seems to indicate that we cannot understand what singular factor or combination of factors actually facilitates or drives success in a counterterrorism strategy—especially as it pertains to targeted killing. Is targeted killing an effective use of a state’s blood and treasure? If so, how effective is it, and how do we know? If targeted killing is ineffective, why and, again, how do we know? The authors referenced in this thesis have made contributions to the discussion and understanding of targeted killing, but in all instances, do not make compelling cases for the continued use of such a strategy. If it is truly the case that we do not have enough information to accurately evaluate the effectiveness of targeted killing, then a methodology to better explore the issue needs to be developed. A thorough discussion of this topic requires a treatment of a number of questions that, to date, remain unanswered—or at least unclear.

The answer to the question of the efficacy of targeted killing rests in an understanding of the desired effects of such a program coupled with whether the program actually helps a state achieve those effects. Determining the *desired* and *actual* effects of

targeted killing, and then discovering the delta between those two sets of effects, we contend, is an involved process and sets the stage for a discussion of our proposed six-step methodology for determining the utility of targeted killing.

1. Define the Strategy

The first step of this methodology asks the following question: What is the state's strategy vis-à-vis its targeted killing program, i.e., what are the desired effects the state is trying to achieve via targeted killing? While the methodology we will lay out is meant to determine the causal relationships involved in targeted killing, in the greater discussion of the utility of targeted killing, we have to know whether that program is achieving the effects the state intends for it to achieve. In order to answer this question, we have to know why the state is embarking on a program of targeted killing in the first place.

Is targeted killing meant to achieve enemy attrition, enemy paralysis, both, neither? Is the state using targeted killing to eliminate terrorists, pacify populaces, degrade networks, halt movements, earn political clout? Understanding that there can be a mix of tactical, operational, and strategic desired effects, and further recognizing that for any given category of effect there will be myriad questions that arise, simply knowing what those effects are is necessary to understand targeted killing's efficacy.

2. Define the Problem

The problem this methodology attempts to address is the following: What are the actual effects of targeted killing? What really happens when a state undertakes a program of targeted killing? A large part of the criticisms of targeted killing is that the follow-on effects of such a program (beyond dead terrorists) are deleterious to a state's overall strategy. Thus, we ask, what are those follow-on effects? Determining targeted killing's effectiveness rests on our ability to determine whether targeted killing is achieving the state's desired effects or whether targeted killing is detracting from those desired effects—in this case reducing or eliminating Palestinian attacks. This is not a simple a cost-benefit analysis of weighing the benefit of dead terrorists against the cost of inciting local populations (although these considerations are involved in this kind of calculus).

Rather, there are a host of variables at play that require thorough analysis to sufficiently untangle the causal process(es) involved.

3. Identify and Operationalize the Variables

Any counterterrorism strategy involves a number of independent variables—that is, the lines of operation a state may pursue to achieve its desired end state. In this thesis, we initially limit our study of independent variables to those that can be observed via temporal and spatial analysis. The initial independent variables analyzed are the following: episodes of targeted killing, detentions of Palestinians by Israel, and the use of barriers to movement—specifically, Israel’s construction of the Anti-Terrorist Fence around the West Bank. We recognize, however, this restriction to directly observable variables may ignore instruments of national power such as economic sanctions and diplomatic efforts, the results of which are not easily quantifiable given the current data. As our analysis builds throughout this thesis, we will examine some of these types of variables in an attempt to better understand the utility of targeted killing.

Targeted killing never occurs in a vacuum. There are always other factors that may contribute to the observable effects. As noted above, Byman lays out some of the variables Israel has manipulated during its counterterrorism effort in the Second Intifada.²⁹ Targeted killing was but one of those variables. Any number of independent variables may exist; lines of operation undertaken in a larger counterterrorism context.

Employment of the independent variables causes some degree of variation in the dependent variable, that, in this thesis, is the attainment of Israel’s strategic desired end state. We will define and discuss this end state in the next chapter. To that end, our case study will analyze the effectiveness of targeted killing in achieving the state objective.

Assessing the independent variables requires holding one of the independent variables constant while allowing others to vary. For example, observing the amount of targeted killing variation while holding other independent variables constant, such as rate of arrests or implementing barriers to movement, allows for a careful analysis of the

²⁹ Daniel Byman, “Do Targeted Killings Work?” 95.

impact of targeted killing. Likewise, holding the targeted killing variable constant while observing variance in another tactic, such as arrests, allows for analysis of the efficacy of other lines of operation. The dependent variable studied is then observed for the rate of change. This analytic methodology allows for a study of the efficacy of each line of operation by analyzing the co-variation of the dependent variable as each independent variable is employed to varying degrees.

4. Collecting the Data

The next step in this methodology is to ask if the types of data articulated in Step 3 exist.³⁰ Perhaps so. Some of the data offered in the referenced literature is pertinent, but incomplete. Perhaps some degree of primary research is still required to be able to provide the level of detail necessary. Regardless, the data required to study the effects of the independent variables on the attainment of state policy objective is necessary to derive the utility of targeted killing. Data such as number of Palestinian attacks after Israeli implementation a program of targeted killing vice after implementation of the Anti-Terrorist Fence are germane to this analysis.

Furthermore, this data should be studied in the context of time and space. For example, does an episode of targeted killing cause a decrease in the number of Israelis killed by terrorist attacks in the surrounding area? If the data suggests that targeted killing does cause this reduction, how long does this reduction last? If the data does not support such claims, we may simply be observing a correlation of events, not whether one causes the other. Having a full spectrum of reliable data underlying the causal relationships is a must. Key elements of the data we are endeavoring to collect are the temporal and spatial pieces of information that can help determine the causality outlined in Step 5. We have to know when and where these data are occurring, specifically in relation to one another, if we are to be able to draw any meaningful conclusions as to their relationships.

³⁰ We chose the Israeli case because of the richness of the available data and the resultant opportunity to conduct the kinds of analysis necessary to determine the causal relationships involved in targeted killing. For a state considering this line of operation in future, consideration should be given to the data pertinent to that state's particular situation.

Included in this discussion is the set of questions that explores the temporal nature of the effects of targeted killing. Are the effects of targeted killing seen immediately, or is there an element of latency associated with certain observations? We propose investigating a temporal breakpoint, based on the data analysis, after which the effects of targeted killing may no longer be attributed to that program. Similarly, we will use the data analysis to determine if a spatial relationship exists—that is, based on the relative proximity of an instance of targeted killing and observed effects, does distance matter? For example, if an episode of targeted killing produces a decline in Palestinian attacks, does this effect apply only to a certain area surrounding the incident of targeted killing?

The point of this discussion is to understand that the process of determining the effectiveness of targeted killing is a bit more involved than some of the existing literature suggests. Knowing what data is required to understand the relationships is obviously crucial. Some of the data offered in the referenced literature is pertinent, but incomplete. Simply treating a portion of the problem will not lead to a full understanding of the factors at play; that will lead to the inability to draw meaningful conclusions on the effects—and ultimate utility—of targeted killing.

5. Determining Causal Relationships

As has been noted earlier, previous authors have been incomplete in their analyses of the causal relationships of targeted killing. Arguably, the principal shortfall of the literature on this topic centers on the other independent variables employed in addition to, or in concert with targeted killing. A key set of questions is: What else is going on? What are the other lines of operation in play? What effects are they achieving, and how do we know? What is the enemy doing during the same time period? What effects are those actions achieving, and how do we know? Central to this line of questioning is the notion that it is extremely difficult—yet methodologically crucial—to differentiate between the effects of targeted killing and the effects of other actions.

In this thesis, we propose to iteratively build analyses from simple correlative observations to a more robust statistical framework. A within-case linkage of specific Israeli lines of operation with the observed outcomes hinges on an ability to isolate the

effects of each line of operation. Isolating the impacts of each independent variable on the dependent variable is possible if the data are analyzed using multivariate analytic tools. These results can then be classified by the degree to which each line of operation assisted the attainment of strategic desired end state. We will review the other lines of operation employed in the area and at the time of the targeted killing. By analyzing the interrelated nature of the relationships among these data points, we intend to gain a more thorough understanding of which line of operation was attributable to the effects observed.

6. Determine Applicability

As a final step in our proposed methodology, we broach the subject of the applicability of our findings. Based on the case study data analysis described above, we expect to derive causal relationships between the use of a program of targeted killing and the efficacy of Israel's program. We argue this expected utility must be couched in terms of the dependent variable—that is, the state's strategic desired end state. By knowing the effects of targeted killing, strategic leadership may be better prepared to assume the potential risks of targeted killing couched in terms of potential benefits of such operations.

This study is designed to allow for future analysis of novel cases in order for a state to determine whether a program of targeted killing may be efficacious given a set of antecedent conditions relative to a stated strategic desired end state. We would offer that history contains numerous datasets with which to test our methodological procedure. Additionally, contemporary U.S. cases seem particularly appropriate venues for an in-depth analysis of the efficacy of targeted killing.³¹ In other words, are the theaters in which the U.S. is conducting similar operations (Iraq, Afghanistan, Federally Administered Tribal Areas, Horn of Africa, *inter alia*) so different, so idiosyncratic from one another that the above methodology would only be applicable to a specific theater or

³¹ The British experience in Malaya and Northern Ireland, the French experience in Algeria, the U.S.'s Phoenix Program in Vietnam and contemporary U.S. experiences in Iraq and Afghanistan—to name but a few—could prove to be potentially useful case studies to further this research.

locus? Or, is there a larger set of lessons learned that can be extracted from one theater and then applied to others?

F. THESIS PREVIEW AND ROADMAP

In this introductory chapter, we have outlined the essential problems with the current state of play in the targeted killing arena. As evidenced in the literature review, the core problem with the employment of targeted killing is that a state does not know what effect is achieved or if the use of targeted killing is producing the desired effect. Our hypothesis is that the effects of targeted killing operations can be known and these effects can be analyzed along with other lines of operation in order to discern which lines of operation are “working” and which are not. From this understanding, a state may then choose which lines of operation to employ and which to curtail. Alternatively, a state can determine when and where to accept risks by employing targeted killing. Following this statement of the problem and research hypothesis, we introduced an alternative methodology for analyzing the variables operative in a state’s counterterrorism campaign employing targeted killing as one line of operation.

In the chapters that follow, we will examine the Israeli experience with targeted killing during the Second Intifada using the methodology introduced above. From a careful analysis of the independent and dependent variables, a better understanding of the effects of targeted killing—along with the other lines of operations operative in this case—will be used to empirically determine the efficacy of targeted killing.

Chapter II introduces the Israeli case study, beginning with a brief background of the Second Intifada and Israel’s counterterrorism experience. From there we will articulate Israel’s strategic desired end state vis-à-vis its targeted killing program. Inherent in this discussion is the Israeli process for selection of targets and why targeted killing is chosen in these cases. Throughout this chapter, we begin to build the analytical framework linking empirical outcomes of Israel’s lines of operation to their respective contribution to stated policy goals.³²

³² Chapter II contains application of elements of Steps 1–5 of our proposed methodology.

Chapter III represents an iterative approach to analyzing the baseline variables discussed above, as well as drawing out additional variables from our extensive research of the case study. These additional variables help drive an understanding of which lines of operation reduce or increase Palestinian attacks against Israel. Additionally, Chapter III introduces vignettes that serve to explore the qualitative conditions ongoing during the Second Intifada. These vignettes provide some richness to the quantitative analysis in order to capture those actions that may be difficult to quantify, yet we suspect impact the conflict. We conclude Chapter III with a brief discussion of the analytic findings as well as their implications for future conflicts.³³

Chapter IV is our discussion of possible policy implications. Key to this discussion is transitioning from targeted killing's tactical outcomes to strategic-level considerations for use of such a program. We conclude with a review of the lessons learned from the Israeli case and generalize these lessons to other, and perhaps novel, cases. Though the scope of this thesis is insufficient to cover all details of a national level policy, we aim to provide a framework in which to consider the implementation of a program of targeted killing—that is, given the observed effects in a theater of operation, is the use of targeted killing a good option for a state, or will such a program work to its disadvantage.³⁴

³³ Chapter III fully develops and implements Step 5 of our proposed methodology, but also contains some discussion of Step 4.

³⁴ Chapter IV couches our analytic findings in terms of Step 6 of our proposed methodology, providing a useable framework for our empirical results.

II. THE ISRAELI EXPERIENCE WITH TARGETED KILLING DURING THE SECOND INTIFADA

A. HISTORICAL BACKGROUND OF THE SECOND INTIFADA

The seeds of the Second Intifada were planted in 1965. While this year certainly was not the beginning of the Jewish experience with Palestinian violence,³⁵ al-Fatah's January 1965 attack in Galilee marked the beginning of the link between Palestinian acts of violence and achievement of Palestinian national goals, especially "'liberating Palestine' and establishing a Palestinian state, which would replace the State of Israel."³⁶ The years following Fatah's 1965 attack saw a host of violent lines of operation prosecuted by Palestinians, as well as various Israeli countermeasures.³⁷ After the Six Day War (1967) and in the years leading up to the First Intifada in December 1987, Palestinian small-scale violence against Israel escalated, transnational-regional involvement with the Palestinian cause increased,³⁸ and Israel continued to respond to aggression from within and without its borders. Ceasefires were agreed to and broken, various militant Arab groups surfaced and faded away, and more conventional wars were fought between Israel and her neighbors. Israel's military and diplomatic successes and failures, often embodied in the cyclical Arab-Israeli peace process, coupled with recurring Palestinian leadership and population issues, paved a tumultuous road toward the events of the Second Intifada.

³⁵ Understanding that the Arab-Israeli War of 1948 saw the first "round" of fighting between the newly-formed State of Israeli and its Arab neighbors, and that Arab violence against Jews can be traced all the way back to the time of British-mandated Palestine and the period immediately following the 1917 Balfour Declaration, we make the 1965 distinction as it seems to introduce Palestinian goals that transcend the simple destruction of Israel. This idea is borrowed from Hanan Alon, *Countering Palestinian Terrorism in Israel: Toward a Policy Analysis of Countermeasures*, (Santa Monica, CA: Rand, 1980), vii.

³⁶ Hanan Alon, *Countering Palestinian Terrorism*, 7.

³⁷ For the Palestinians, lines of operation include bombings, suicide attacks, hijackings, assassinations, *inter alia*. For Israel, lines of operation included the reintroduction of defensive measures; e.g., fences and guards around settlements, as well as offensive operations against neighboring countries. See, for example, Hanan Alon, *Countering Palestinian Terrorism*.

³⁸ Here we simply recognize that after the Israeli victory against its Arab neighbors in June 1967, there was a sense that "pan-Arab" support for the Palestinian cause was warranted. Egypt and Jordan joined Syria and Lebanon in adopting a strategy of terrorism against Israel. See Hanan Alon, *Countering Palestinian Terrorism*, 41.

The failure of Israeli Prime Minister Ehud Barak to broker peace with PLO Chairman Yasir Arafat during the Camp David peace talks in July 2000 ushered in the hard-line leadership of the Likud party in subsequent Israeli elections,³⁹ putting in place antecedent conditions that set ablaze the second uprising of Palestinian militant groups in Israel and Israeli-occupied territories.⁴⁰ The Second Intifada, commonly referred to as the Al-Aqsa Intifada, is widely thought to have begun on September 28, 2000, when then head of the Likud Party, Ariel Sharon, visited the Temple Mount in Jerusalem. While the Temple Mount is the holiest site in Judaism, it is also the site of the Al-Aqsa Mosque, the third holiest site in Islam.⁴¹ Although Sharon did not enter the mosque, his visit incited Palestinian protests provoking a harsh Israeli response that injured hundreds of Palestinians in ensuing riots.⁴² In fact, Israel claims the Palestinian Authority began planning the Second Intifada immediately after the failed Camp David peace talks, and that Sharon's visit to the Al-Aqsa Mosque was merely an excuse to begin hostilities.⁴³ During the subsequent demonstrations, Palestinians rallied around the accidental death of a 12-year-old Gazan caught in Israeli and Palestinian cross fire, while Israelis were incensed by the lynching of two Israeli Defense Force (IDF) reservists in Ramallah who

³⁹ We recognize that the 2000 round of talks at Camp David were less a failure of Barak's ability to broker peace, and more a success of Arafat in purposefully forestalling any hope of meaningful reconciliation. Regardless, the resultant political landscape in Israel was such that the Likud Party became very well-positioned to capture power in the Israeli Parliament; cap-stoned with the election of Sharon as prime minister on February 6, 2001.

⁴⁰ Mesut Özcan, *Harmonizing Foreign Policy: Turkey, the EU and the Middle East*, (Burlington, VT: Ashgate Publishing, 2008), 67, available via http://books.google.com/books?id=96hEUIkd00IC&pg=PA67&lpg=PA67&dq=Sharm-el-Sheikh+negotiations+to+end+the+second+intifada&source=bl&ots=yGaaSEJVty&sig=zWLzFW0WaBdnZqSMtU7Bux7lpDA&hl=en&ei=U7N_StG8JILgsQO62KTvCg&sa=X&oi=book_result&ct=result&resnum=2#v=onepage&q=&f=false (accessed August 8, 2009).

⁴¹ Mark Juergensmeyer, *Terror in the Mind of God: The Global Rise of Religious Violence*, 3rd ed., rev. and updated (Berkeley, CA: University of California Press, 2003), 46-49. The significance of one geographic location is suggestive of the intractable nature of the conflict with both sides claiming an inerrant right and legitimacy of occupation.

⁴² GlobalSecurity.org, "Al-Aqsa Intifada," <http://www.globalsecurity.org/military/world/war/intifada2.htm> (accessed August 6, 2009).

⁴³ GlobalSecurity.org, "Al-Aqsa Intifada."

had taken refuge in a police station.⁴⁴ From this incident, the scope and scale of the Second Intifada continued to escalate unchecked.

The years between the beginning of the Second Intifada and 2004 saw the highest levels of violence of the Second Intifada,⁴⁵ and brought about the use of suicide bombings by Palestinian groups, as well as Israel's use of surgical targeted killing (among other counterterrorism lines of operation). The introduction of the "Roadmap for Peace" in June 2003,⁴⁶ and the death of Arafat in November 2004, renewed hopes for peace. And when newly-elected PA President Mahmoud Abbas met with Israeli Prime Minister Sharon in February 2005, both sides agreed to a mutual cease fire. Some argue that this event marked the end of the Second Intifada, but in July 2005, a Palestinian suicide bomber reignited hostilities in the central Israeli town of Netanya. In January 2006, HAMAS defied the West by democratically taking control of the PA Legislature,⁴⁷ and later that summer, Israel became embroiled in another conflict in Lebanon, ushering in a relative period of calm in the Second Intifada. Regardless, it is generally accepted that the Second Intifada still continues today, with each side maneuvering not only for the political will of their respective populations, but also for the support of the global community.⁴⁸

The failure of past and present negotiation efforts between Israel and Palestine is symptomatic of the complexity of the Israeli-Palestinian issue. Several initiatives have been attempted by different world leaders since before *and* during the Second Intifada, but all have failed. The Israeli government answers to a constituency that wants a

⁴⁴ Ian J. Bickerton and Carla L. Klausner, *A History of the Arab-Israeli Conflict*, 5th ed., (Upper Saddle River, NJ: Pearson/Prentice Hall, 2007), 330–332.

⁴⁵ Throughout this thesis, we rely primarily on B'Tselem's compiled statistics. While some limitations exist in these datasets (e.g., the absence of non-fatal casualties), and while we have augmented these datasets as indicated, the richness and reliability of B'Tselem's data is recognized in the literature. See B'Tselem: The Israeli Information Center for Human Rights in the Occupied Territories, "Statistics," <http://www.btselem.org/english/statistics/Index.asp> (accessed November 11, 2008).

⁴⁶ The United Nations News Centre, "A Performance-Based Roadmap to a Permanent Two-State Solution to the Israeli-Palestinian Conflict," <http://www.un.org/media/main/roadmap122002.pdf> (accessed September 3, 2009).

⁴⁷ GlobalSecurity.org, "Al-Aqsa Intifada."

⁴⁸ For a timeline of the major events related to the Second Intifada see, for example, Ian J. Bickerton and Carla L. Klausner, *A History of the Arab-Israeli Conflict*.

brokered peace, but sees no evidence of an end to the violence. The Palestinians have several groups pursuing their own agendas within the West Bank and Gaza Strip. Although most Palestinians have grown weary of the constant state of war, several Palestinian groups feel compelled to pursue the goal of a Palestinian state on current Israeli territory. Further adding to the complexity of this issue is the phenomenon that within the Israeli and Palestinian camps are groups with very different views on exactly what means should be used to achieve which ends, not to mention both Israel and the PA have extremist constituents who work to prevent peace efforts from succeeding. This is by no means a conflict between two otherwise homogenous sides. For the Palestinians, the lack of an overall functioning representative governing structure only increases the turbulence caused by the rising and falling of levels of nationalism.⁴⁹ While more muted within Israeli's functioning democracy, the Jewish state is not immune to winds of political change dictating the direction of Israel's counterterrorism strategy.

Since 2000, the Second Intifada has claimed the lives of over 1,000 Israeli citizens and over 9,400 Palestinians. Additionally, Israel has detained thousands of Palestinians, built a security fence around much of the West Bank, effectively cut off the Gaza Strip from the rest of the world, and used various diplomatic, economic, and humanitarian pressures in an attempt to secure its citizenry from Palestinian attacks. Despite all of this, the Second Intifada is still ongoing. We conclude this section with the question: what is Israel's desired end state vis-à-vis the Second Intifada, and how does it gauge success and failure in that endeavor?

B. ISRAELI COUNTERTERRORISM STRATEGIC DESIRED END STATE

The basic foundation of any campaign is the strategic desired end state to which operational and tactical actions must build.⁵⁰ For our argument, the strategic desired end state is the goal for which the state is striving. In other words, if a state does not know the end toward which it is working, how can that state begin to build a campaign to get to

⁴⁹ It is not lost on the authors that a major contributor to the lack of cohesive Palestinian governance is the intra-Palestinian conflict—a fact that will be explored in later chapters.

⁵⁰ Carl Von Clausewitz, *On War*, ed. and translated by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 579.

that end? In the case of the Israeli counterterrorism campaign, the strategic desired end state appears to be a prevention of future attacks on Israel and her citizens.⁵¹ Clouding the issue of desired end state is the internal security decision making processes within the Israeli government. As the former Deputy National Security Advisor has detailed, the Israeli government operates with a very short time horizon measured in days and weeks vice years or generations. This lack of long-term outlook, coupled with the nature of coalition governance, has produced a startling lack of strategy for the counterterrorism campaign. The Israeli national security decision-making process appears to have no strategic vision or framework, is *ad hoc* in the extreme, and appears to have very little empirical or analytic basis for the purposes of measuring effectiveness. Additionally, what little strategic vision that does come from the government is dependent upon the leadership of a particular prime minister, the coalition and cabinet formed, and tends to change with each election. Finally, the lack of long-term policy making and strategic planning in Israel has much to do with Israel's history as a nation and its perception of the unique and extreme threat environment in which Israel exists.⁵² Ultimately, the importance of the strategic desired end state, in the context of our thesis, is to define the dependent variable of our analysis.

Given this strategic desired end state, what, then, is Israel doing to prevent future Palestinian attacks? During the Second Intifada, Israel has employed arrest, barriers to movement, occupation, military incursions into Palestinian refugee camps, targeted killings and the recently constructed Anti-Terrorist Fence between the West Bank and

⁵¹ While some authors present a different strategic desired end state, the Israeli government has been somewhat silent on this issue. The Israeli Supreme Court addressed this issue early in their denial of the petition of the Public Committee Against Torture v. Government in December in 2006. In the synopsis of the case, the Supreme Court puts the state position on targeted killings as a pre-emptive strike to prevent attacks. See The Supreme Court of Israel, "Targeted Killings: Public Committee Against Torture v. Government," in *Judgments of the Israel Supreme Court: Fighting Terrorism Within the Law* 3 (Jerusalem: The Ministry of Foreign Affairs, 2009), 85. The Israel Ministry of Foreign Affairs also points to reduction in attack levels as the measure of effectiveness for this campaign. See Israel Ministry of Foreign Affairs, "Saving Lives: Israel's anti-terrorist fence – Answers to Questions," http://www.mfa.gov.il/MFA/MFAArchive/2000_2009/2003/11/Saving+Lives+-+Israel-s+anti-terrorist+fence+-+Answ.htm (accessed March 8, 2009). Specifically, "The anti-terrorist fence: facts and figures (powerpoint)" provides measures tracking the decline of Palestinian attacks as sections of the Anti-Terrorist Fence are built.

⁵² Charles D. Freilich, "National Security Decision-Making in Israel: Processes, Pathologies and Strengths," *The Middle East Journal* 60, no. 4 (Autumn 2006): 635–663.

Israel proper; to say nothing of economic sanctions and diplomatic pressure.⁵³ Though this list is not exhaustive, it represents the lengths to which Israel has gone to realize the strategic desired end state: prevention of future terror attacks. Each of these lines of operation has benefits and costs associated with its conduct. Additionally, not all are as benign or as malicious as they may appear on the surface. For example, while the Anti-Terrorist Fence may appear to be a relatively benign form of population control—arguably less invasive than other forms of barriers to movement Israel has used—this line of operation has not been without its critics.⁵⁴ Some of these critics point out that the Fence is effectively another form of collective punishment; roughly akin to the major incursions into the Occupied Territories that also brought a resounding chorus of criticism to the Israeli government at other times during the Second Intifada.⁵⁵ In a similar vein, while the program of targeted killing appears, to many observers, to be the height of malicious and violent action, others have noted that this may have a more benign impact on the Palestinian population than other forms of Israeli counterterrorism action.⁵⁶ Yet, even if Israel could make an operational choice that would only gain the support of critics, the issue at hand remains the effectiveness of targeted killing.

The problem with analyzing any one of these lines of operation is that none of them occur in a vacuum. For example, while targeted killing operations have been utilized since November 2000,⁵⁷ and continued well into 2006, beginning in 2002 and

⁵³ Daniel Byman, “Do Targeted Killings Work?” 95.

⁵⁴ See, for example, the UN International Court of Justice ruling on the legality of the “separation barrier” (United Nations, “Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory (Request for advisory opinion),” International Court of Justice, July 9, 2004, <http://www.icj-cij.org/docket/files/131/1677.pdf> (accessed August 11, 2009)). Additionally, B’Tselem has highlighted negative aspects of the Anti-Terrorist Fence to include issues of sovereignty and re-occupation of Palestinian territory (B’Tselem: The Israeli Center for Human Rights in the Occupied Territories, “Separation Barrier,” http://www.btselem.org/English/Separation_Barrier/ (accessed March 8, 2009)).

⁵⁵ Steven R. David, “Fatal Choices,” 19–20.

⁵⁶ Steven R. David, “Fatal Choices,” 19.

⁵⁷ Yael Stein, “Position Paper: Israeli’s Assassination Policy: Extra-Judicial Executions,” translated by Maya Johnston, *B’Tselem: The Israeli Information Center for Human Rights in the Occupied Territories*, January, 2001, 1, http://www.crimesofwar.org/onnews/btselem_extrajudicial_killi.pdf (accessed March 6, 2009).

continuing through 2008, the Anti-Terrorist Fence was being constructed.⁵⁸ This construction may have served to reduce the overall number of attacks originating from the West Bank, but it also clouds the issue of causality—namely, if the number of attacks (or even the lethality of attacks) is reduced, did the reduction occur as a result of the security fence, arrests, targeted killing, or all three? Did something else—e.g., peace negotiations or changing Israeli state interests—contribute to the decline? The answer to the question of causality is difficult, but by isolating the targeted killing variable, we seek to understand its effects by observing variation of outcomes and by observing the intervening variables that occur in the course of any operation.

The Israeli decision to pursue targeted killing operations in earnest during the Second Intifada has produced international criticism over the methods used to interdict potential terrorists. While we will not delve into the legal aspects of targeted killing, it is worth noting that the targeted killing program has been challenged before the Israeli Supreme Court on numerous occasions and has been upheld each time.⁵⁹ Though the Israeli Supreme Court is not a completely objective arbiter of the legality of this program, one can argue that the program, at a minimum, is consistent with the legal norms within the construct of the democratic Israeli legal system. Additionally, as a result of the ongoing challenges from various human rights organizations regarding Israeli targeted killing operations, the IDF has issued basic guidance on the manner in which a target moves through the various stages of the program.⁶⁰ The Israeli government decides whether to employ targeted killing for a number of reasons. We argue that this decision should be based on an analysis of the existing data using the framework and tools we discuss in this thesis.

⁵⁸ Israel Ministry of Foreign Affairs, “Saving Lives – Israel’s Security Fence,” November 26, 2003, <http://www.mfa.gov.il/MFA/Terrorism-+Obstacle+to+Peace/Palestinian+terror+since+2000/Saving+Lives-+Israel-s+Security+Fence.htm> (accessed March 8, 2009).

⁵⁹ The Supreme Court of Israel, “Targeted Killings.”

⁶⁰ For a review of the process, see for example, Amos Harel and Gideon Alon, “IDF lawyers set 'conditions' for assassination policy,” *Haaretz.com*, April 2, 2002, <http://www.haaretz.com/hasen/pages/ShArt.jhtml?itemNo=125404> (accessed October 2, 2009).

C. INTRODUCTORY ANALYSIS OF TARGETED KILLING EFFECTS

Building on the previous section's discussion of Israel's strategic desired end state, we propose to begin building a more satisfying evaluation of whether Israel's targeted killing program contributes to the attainment of the Israeli strategic desired end state (preventing Palestinian attacks). As part of this analysis, we strive to unpack to what degree targeted killing contributes to the attainment of success when other factors are considered, such as the construction of the Anti-Terrorist Fence and Palestinians detentions. In order to accomplish this task, we begin by analyzing whether a relationship exists between instances of targeted killing and a reduction in Palestinian violence.

1. Simple Scatter Plot Analysis

In Figure 1, we test the theory that the increased instances of targeted killings have contributed to the reduction in Palestinian violence. The figure depicts the relationship between the dependent variable (instances of Palestinian attacks) on the y-axis and the independent variable (instances of Israeli targeted killing operations) along the x-axis. If the assertion that increased rate of targeted killing contributes to a reduction in terror attacks, the expected slope of the scatter plot band would be negative—that is, the direction of the band of observations of Palestinian attacks would become lower on the y-axis as the observations along the x-axis increased. As shown in Figure 1, this is not the case. In fact, the opposite relationship is indicated: as targeted killings increase, so do terrorist attacks. In this analysis, we have not accounted for time or other factors. At a minimum, we have shown that there is a positive correlation between targeted killing and Palestinian attack levels.

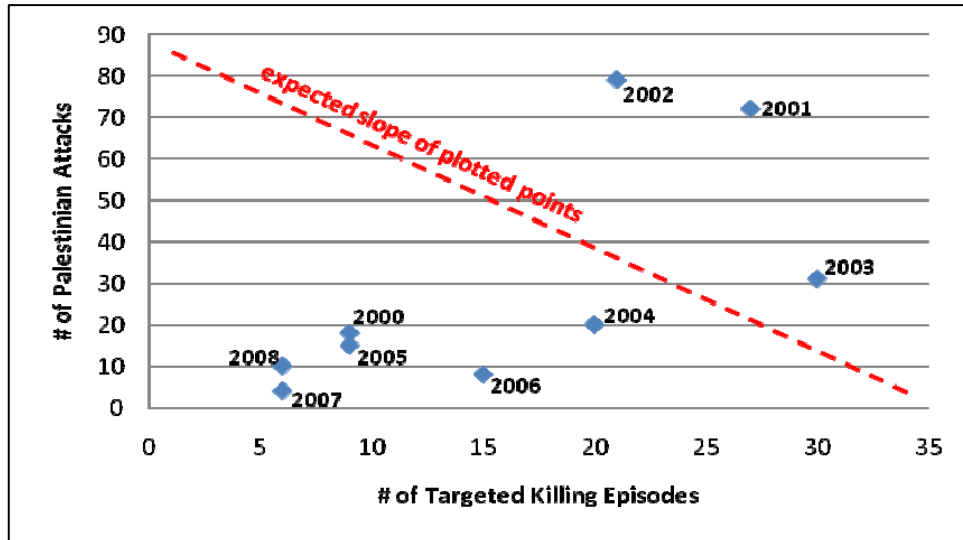


Figure 1. Annualized Scatter Plot of Targeted Killings versus Palestinian Attacks.⁶¹

Though the relationship is not what was expected, we suspect that the simplistic depiction of the data is revealing something about the nature of the interrelationship between Palestinian attacks and instances of targeted killing. Recall from the preceding section that the Israeli targeted killing program is to be used in a preventative or pre-emptive manner. In the case of the Second Intifada, the program was to be used to interdict individuals either *en route* a terrorist attack or in the final stages of planning an imminent attack.

As illustrations of the kind of relationship we expect to see with these simple scatter plots, we have included Figures 2 and 3. Each graph depicts the relationship between the dependent variable (instances of Palestinian attacks) on the y-axis and another independent variable (Figure 2: kilometers of Anti-Terrorist Fence completed; Figure 3: number of Palestinians detained by Israel) along the x-axis.

⁶¹ For the purposes of our analysis we include the B'Tselem data on Palestinian attacks and Israeli targeted killing from October 1, 2000 through December 31, 2008. See B'Tselem: The Israeli Information Center for Human Rights in the Occupied Territories, "Statistics: Fatalities," <http://www.btselem.org/english/statistics/Casualties.asp> (accessed November 11, 2008).

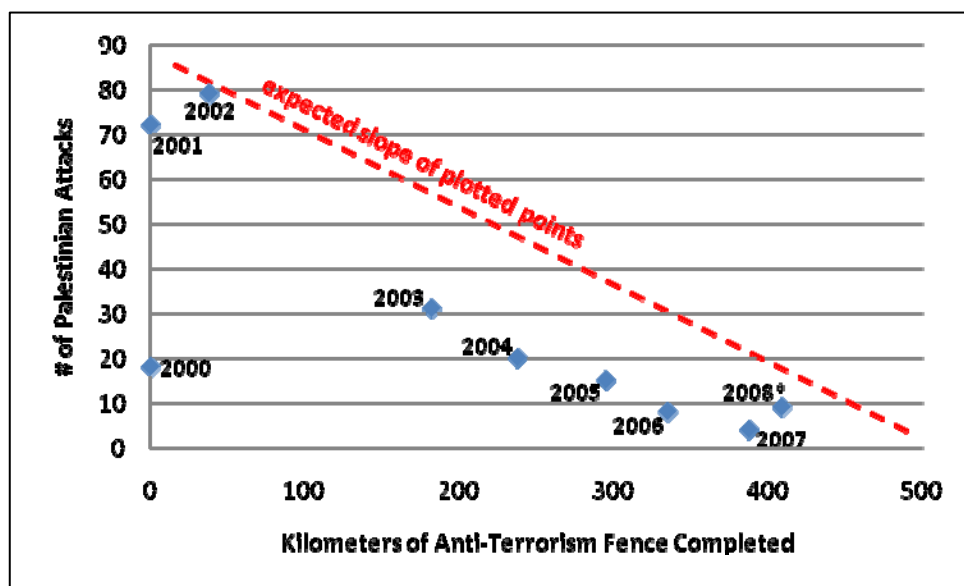


Figure 2. Annualized Scatter Plot of Kilometers of Anti-Terrorist Fence versus Palestinian Attacks.⁶²

⁶² For this scatter plot, the data range is from the beginning of B'Tselem's Second Intifada data through August 31, 2008 only. We again include the B'Tselem data on Palestinian attacks (see B'Tselem, "Statistics: Fatalities") and use Anti-Terrorist Wall completion data from a combination of B'Tselem (B'Tselem: The Israeli Information Center for Human Rights in the Occupied Territories, "Separation Barrier: Statistics," http://www.btselem.org/english/Separation_Barrier/Statistics.asp (accessed November 11, 2009)), UNOCHA (United Nations, "Barrier Gates Open to Palestinians," Office for the Coordination of Humanitarian Affairs/United Nations Relief and Works Agency, July 2008, http://www.ochaopt.org/documents/BarrierRouteProjections_July_2008.pdf (accessed October 1, 2009)), and Israeli Ministries of Foreign Affairs and Defense (see Israel Ministry of Foreign Affairs, "Israel Diplomatic Network: The Anti-Terrorist Fence," <http://securityfence.mfa.gov.il/mfm/web/main/missionhome.asp?MissionID=45187&> (accessed March 8, 2009); Israel Ministry of Foreign Affairs, "Saving Lives: Israel's anti-terrorist fence"; Israel Ministry of Foreign Affairs, "Saving Lives – Israel's Security Fence"; and Israel Ministry of Defense, "Israel's Security Fence," April 30, 2007, <http://www.securityfence.mod.gov.il/Pages/ENG/route.htm> (accessed March 8, 2009)).

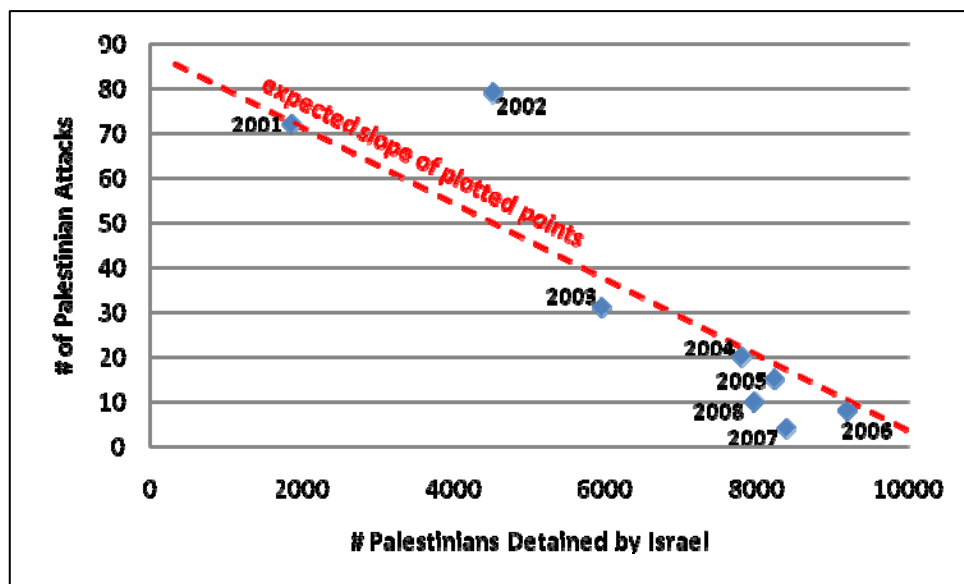


Figure 3. Annualized Scatter Plot of Palestinians in Detention versus Palestinian Attacks.⁶³

As Figures 2 and 3 demonstrate, as the Anti-Terrorist Fence grew and as Israel detained more Palestinians, the level of Palestinian attacks decreased. With one (possibly two) outlier,⁶⁴ all points seem to reasonably fall along a negatively sloped band—that is, the direction of the band of observations of Palestinian attacks becomes lower on the y-axis as the observations along the x-axis increase. This is the relationship we expect to find if Israeli’s counterterrorism lines of operation are effective in reducing the volume of Palestinian attacks.

2. Simple Time Series Analysis

Our initial analysis of scatter plots led us to investigate the relationship of targeted killing and Palestinian attacks in a very basic time series analysis. The results of this

⁶³ We include the B’Tselem data on Palestinian attacks and Israeli detentions from January 1, 2001 through December 31, 2008. See B’Tselem, “Statistics: Fatalities” and B’Tselem: The Israeli Information Center for Human Rights in the Occupied Territories, “Detainees & Prisoners: Statistics on Palestinians in the custody of the Israeli security forces,” http://www.btselem.org/english/statistics/Detainees_and_Prisoners.asp (accessed November 11, 2009).

⁶⁴ In Figure 2, the 2000 outlying data point can perhaps be explained by the fact that the data for that year is only three month’s worth (as the Second Intifada began in the later-half of 2000). In Figure 3, the 2001 data point could be viewed as an outlier, and can perhaps be explained by the Israeli Defense Force’s occupation of the West Bank at the beginning of that year (Operation Defensive Shield).

analysis are shown in Figure 4 and indicate a time-lagged relationship between the instances of terrorist attacks and instances of targeted killing—though the relationship over the initial phases of the Second Intifada were the inverse of what we expected to find, based on the description of the program as a preventative measure.

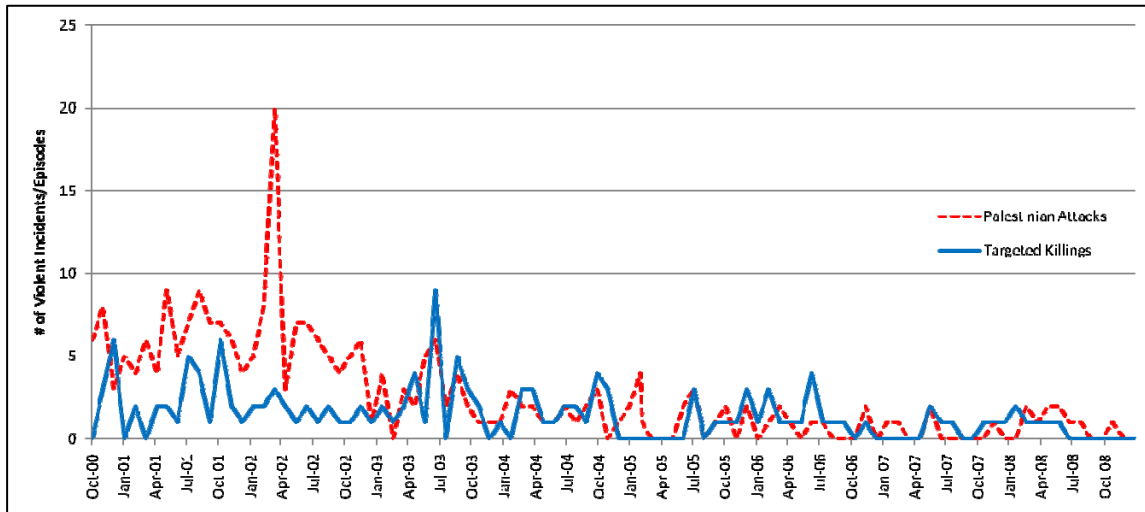


Figure 4. Monthly Episodes of Violence.⁶⁵

In Figure 4, we observed an initial time lag between the peaks and troughs of violence with Palestinian attacks leading Israeli targeted killing operations by approximately one month. This lag is consistent for the first two years of the Second Intifada and continues until December 2004. Although we will analyze this lag in more detail in Chapter III, we are interested in this observation because the actual lag is the opposite of what we initially expected. As noted above in the first scatter plot, we expected a temporal relationship wherein Israel’s targeted killing operations would precede Palestinian attacks. We will investigate the significance of this time lag in Chapter III, but for now, the data suggest that, at a minimum, the targeted killing program appears to function more as a reprisal mechanism than a preemptive tool and that the

⁶⁵ We include the B’Tselem data on Palestinian attacks and Israeli targeted killing from October 1, 2000 through December 31, 2008. See B’Tselem, “Statistics: Fatalities.”

relationship between these two variables is the inverse of what we initially expected to see—both in terms of volume and in terms of the time lag observed between the Israeli action and Palestinian attacks.

3. Geospatial Analysis

In order to investigate further the relationship between targeted killing and Palestinian attacks, we turned to a geospatial analysis of the violence to attempt to analyze what relationship exists, if any, between the locations of attacks in this conflict. Using the same data as in the analyses above, we geo-located each instance of Israeli targeted killing and each instance of Palestinian attack and aggregated them to a yearly unit of measure (for the purposes of simplifying our initial analysis). We also differentiated targeted killings and Palestinian attacks by the magnitude of the violence.⁶⁶ The magnitude is a measure of how many fatalities resulted from a single instance of violence. We analyzed the magnitude of the violence to determine if the overall severity of the episodes of Israeli targeted killing and Palestinian attacks had changed in any significant or observable manner. Figures 5–7 show our initial geospatial results.

⁶⁶ In Figures 5–10, the size of the green squares (Israeli targeted killings) and red circles (Palestinian attacks) indicates the magnitude of a single violent incident, i.e. the larger the shape, the more individuals were killed in one incident (either targeted killing or Palestinian attack). The scale for targeted killings runs from 1-15, and the scale for Palestinian attacks runs from 1-25. These graphics were built using ArcGIS 9.3 (ArcMap 9.3, ESRI, 2008) from the same B’Tselem data we have been analyzing throughout our thesis. See B’Tselem, “Statistics: Fatalities.”

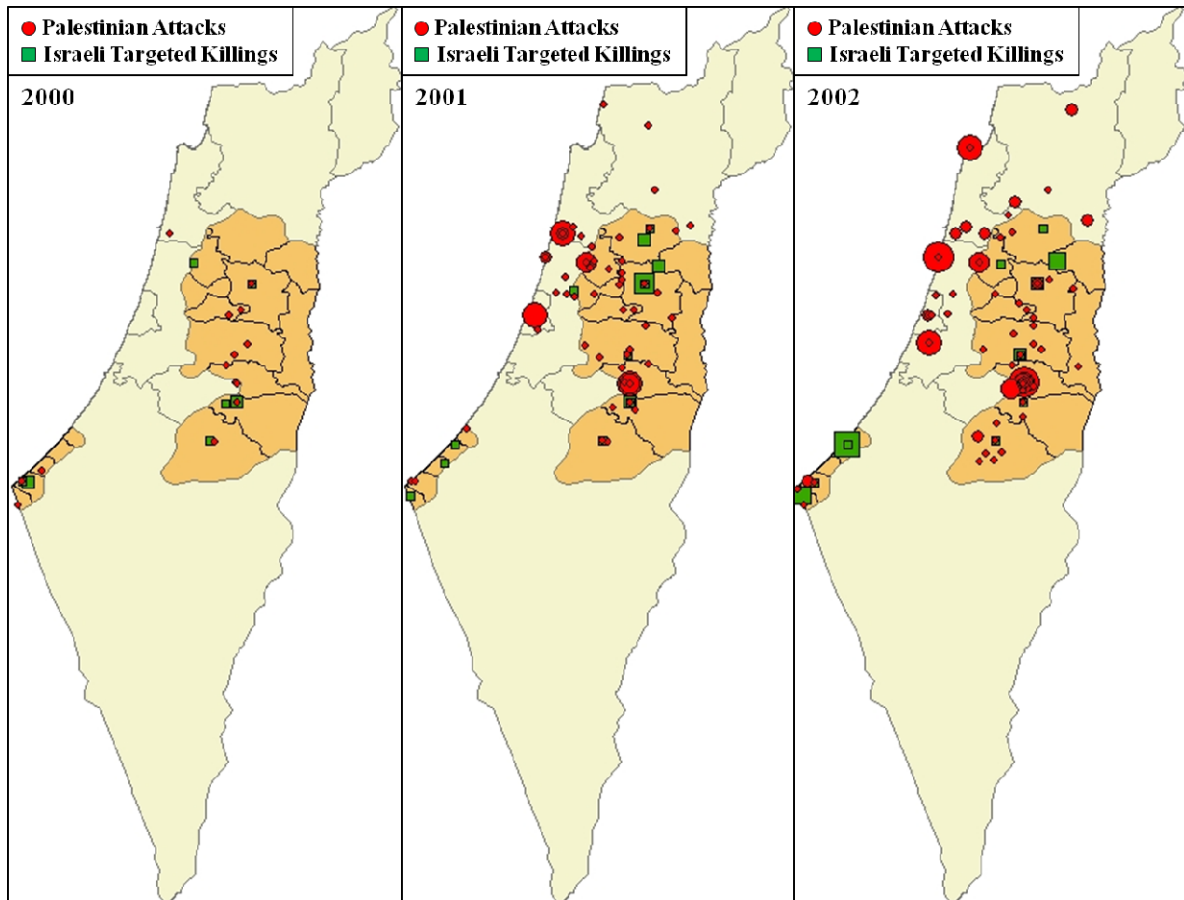


Figure 5. Annualized Location and Magnitude of Palestinian Attacks and Israeli Targeted Killings (2000–2002).

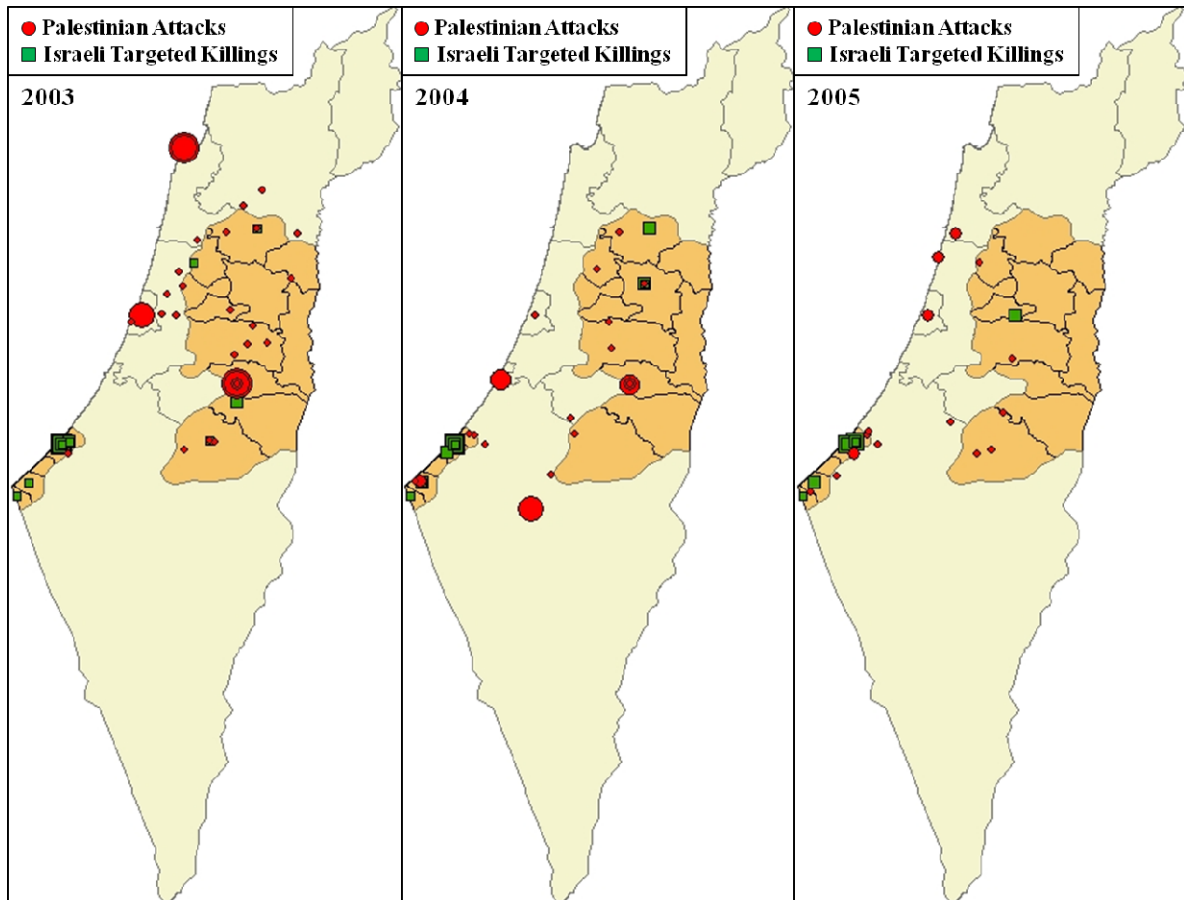


Figure 6. Annualized Location and Magnitude of Palestinian Attacks and Israeli Targeted Killings (2003–2005).

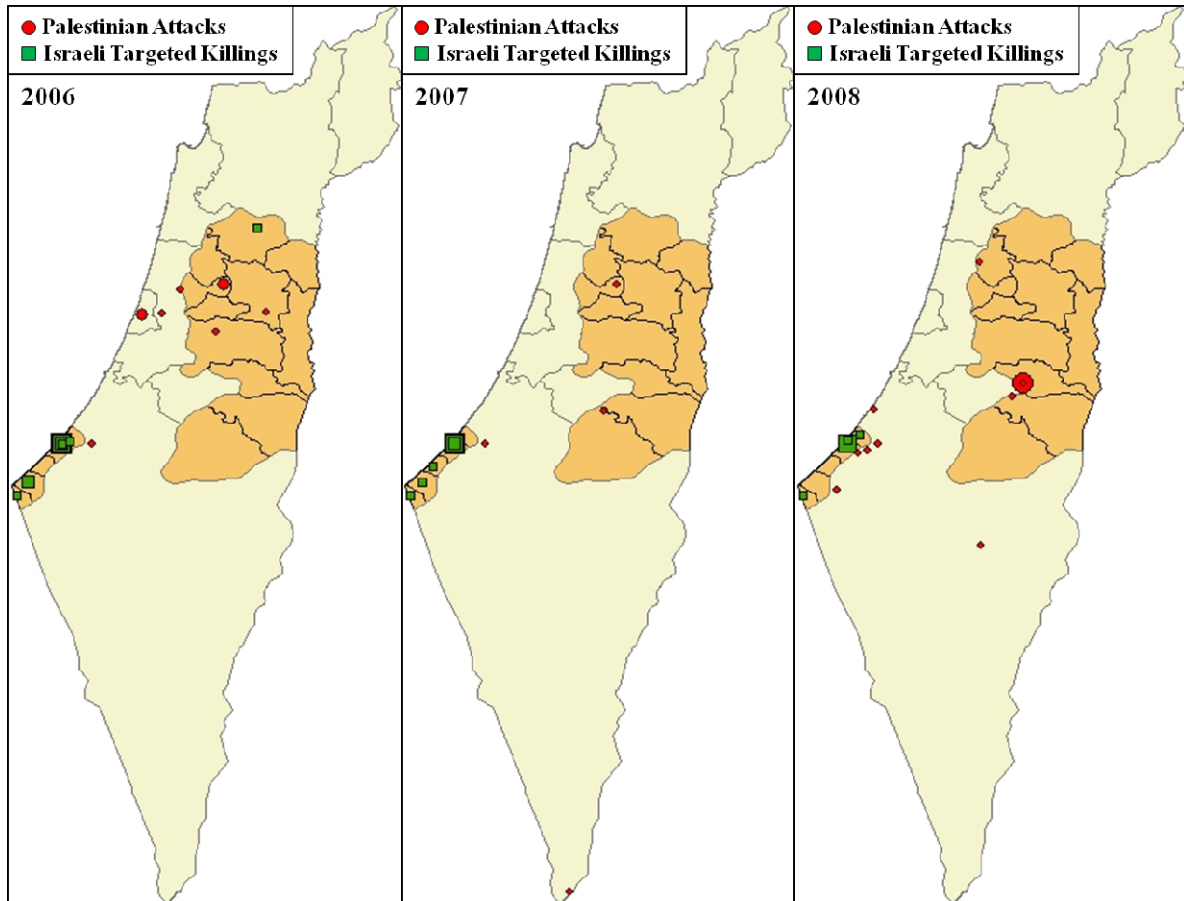


Figure 7. Annualized Location and Magnitude of Palestinian Attacks and Israeli Targeted Killings (2006–2008).

As Figures 5–7 show, the spatial distribution of violence moves in a southwesterly direction from 2000 through 2008, and as the location of violence shifts, so does the magnitude of the violence. While there are a few outliers in the data, the overall trend toward fewer and less violent attacks seems to hold. We also notice that both location and magnitude of violence begin to be affected around the 2003 timeframe, but based solely on this initial geospatial analysis, we are hard-pressed to draw meaningful conclusions.

As a next step, we then included an additional independent variable—construction of the Anti-Terrorist Fence—to begin to investigate the relative effects of multiple Israeli lines of operation. Looking at our geospatial analysis again, this time adding the Anti-Terrorist Fence data, we begin to “see” the interrelated nature of the independent

variables. Whereas in Figures 5–7, we could only conclude that “something” seemed to begin affecting both location and magnitude of violence around 2003, in Figures 8–10,⁶⁷ we observed (what seems to be) the effect of the Anti-Terrorist Fence in terms of both a reduction in violence and in the spatial distribution of violence within Israel and the Occupied Territories.

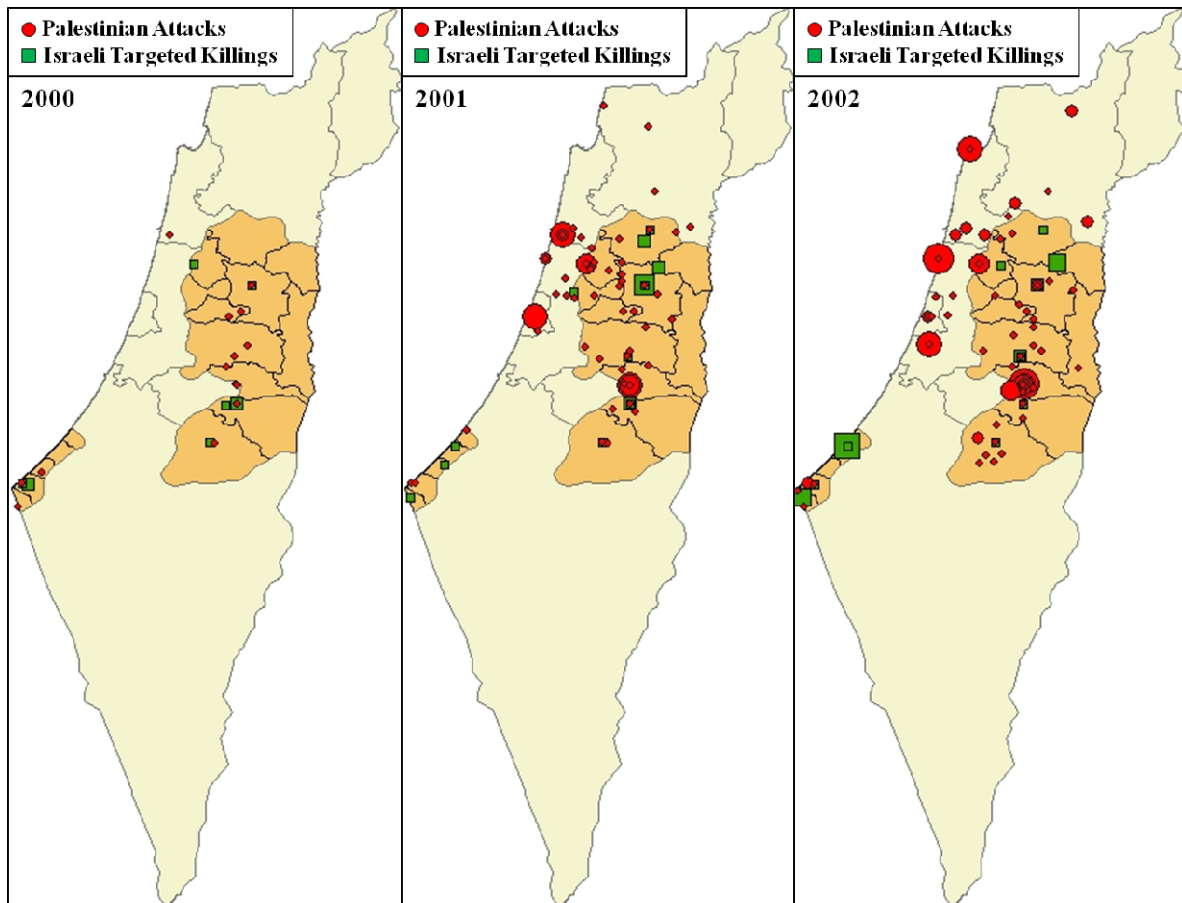


Figure 8. Annualized Location and Magnitude of Palestinian Attacks, Israeli Targeted Killings and Anti-Terrorist Fence Construction (2000–2002).

⁶⁷ The data used to build the Anti-Terrorist Fence overlays was obtained from B’Tselem, “Separation Barrier: Statistics”; United Nations, “Barrier Gates Open” Israel Ministry of Foreign Affairs, “Israel Diplomatic Network”; Israel Ministry of Foreign Affairs, “Saving Lives: Israel’s anti-terrorist fence”; Israel Ministry of Foreign Affairs, “Saving Lives – Israel’s Security Fence”; and Israel Ministry of Defense, “Israel’s Security Fence.”

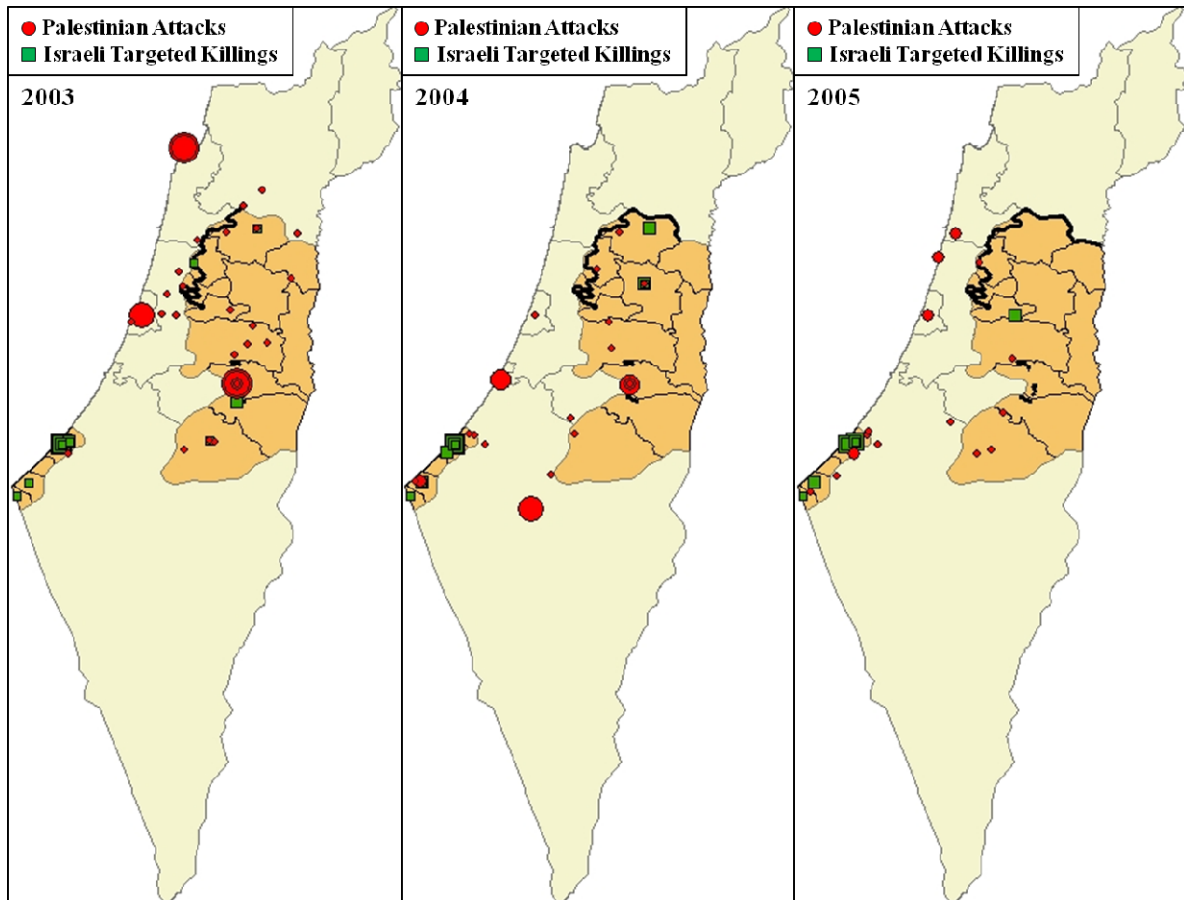


Figure 9. Annualized Location and Magnitude of Palestinian Attacks, Israeli Targeted Killings and Anti-Terrorist Fence Construction (2003–2005).

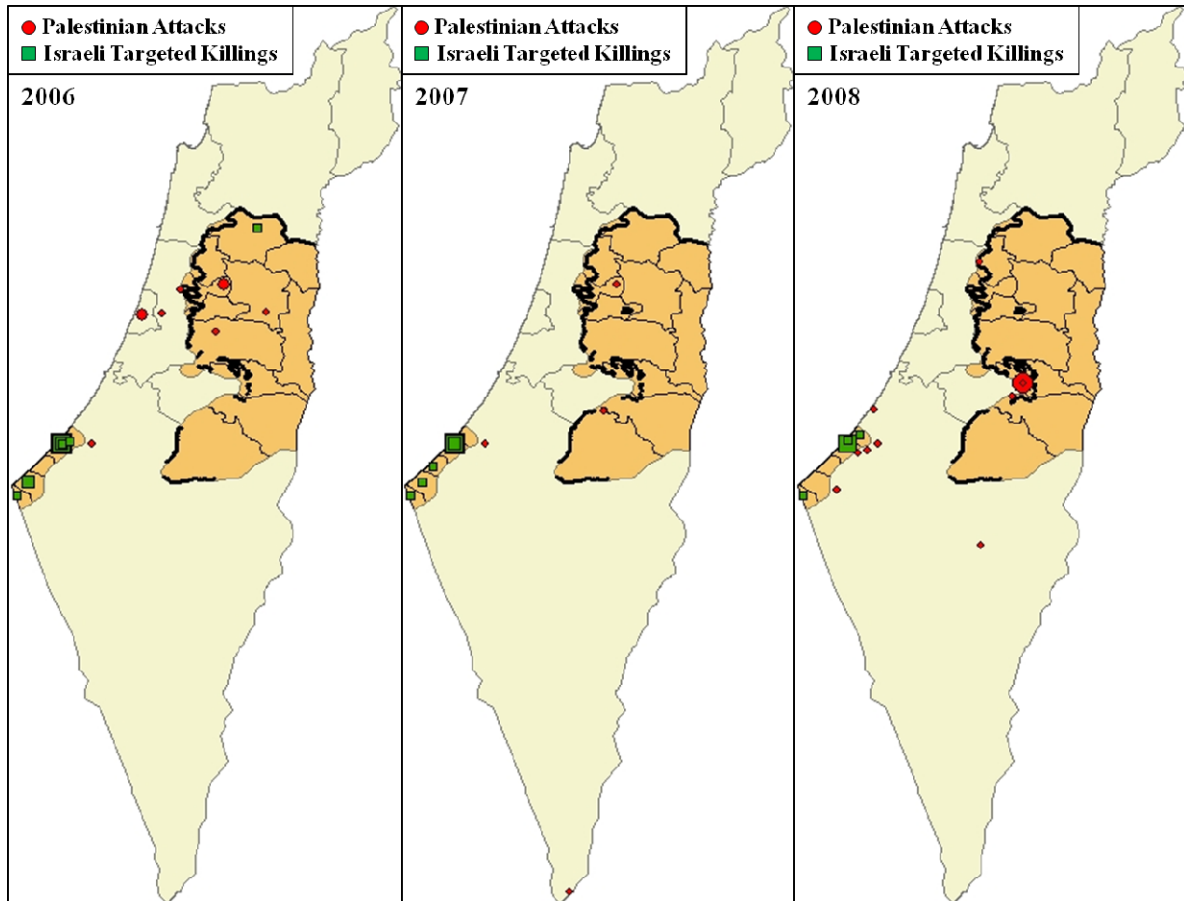


Figure 10. Annualized Location and Magnitude of Palestinian Attacks, Israeli Targeted Killings and Anti-Terrorist Fence Construction (2006–2008).

The severity of Israeli targeted killings, almost exclusively conducted in the Gaza Strip after 2004, seems fairly constant over the time period analyzed. Palestinian attacks, by contrast, more significantly decrease in magnitude in the first year after the completion of the first section of the Anti-Terrorist Fence in 2003. That overall trend persisted through the end of 2008.

As a final step in our geospatial analysis, we then conducted an analysis of the mean center of Palestinian attacks to understand any spatial patterns in the violence over time (i.e., the apparent shift in the distribution of violence and the reduction in magnitude). Our hypothesis was that the violence was shifting away from Israeli population centers and that this shift was not random. Our findings, again aggregated to the annual level, are shown in Figure 11.

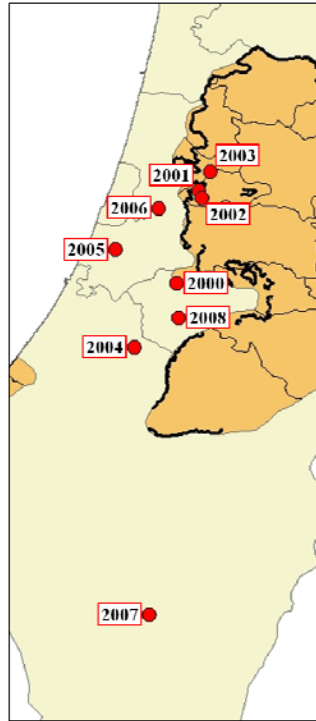


Figure 11. Annualized Mean Center of Episodic Palestinian Attacks.⁶⁸

From 2000 until the initial segment of the Anti-Terrorist Fence was completed in 2003, the locus of violence for both types of attacks was nearer the population centers of Israel and within the West Bank. As the construction of the Fence continued, the locus of violence began a steady migration to the southwest and the magnitude of violence was also reduced. Here again, we note that the program of targeted killing and the construction of the Fence were but two of several Israeli lines of operation utilized during the Second Intifada in order to curb violence. For now, however, we add just the fence in order to introduce the impact that studying just one additional variable can have. The findings from Figures 8–10 suggest that the Anti-Terrorist Fence played a role in altering the distribution of violence both spatially and in terms of magnitude. More detailed analysis of this line of operation follows in Chapter III, but for now this finding

⁶⁸ This graphic was built using ArcGIS 9.3 (ArcMap 9.3, ESRI, 2008) from the same B'Tselem data we have been analyzing throughout our thesis. See B'Tselem, "Statistics: Fatalities"; B'Tselem, "Separation Barrier: Statistics"; United Nations, "Barrier Gates Open" Israel Ministry of Foreign Affairs, "Israel Diplomatic Network"; Israel Ministry of Foreign Affairs, "Saving Lives: Israel's anti-terrorist fence"; Israel Ministry of Foreign Affairs, "Saving Lives – Israel's Security Fence"; and Israel Ministry of Defense, "Israel's Security Fence."

reinforces our hypothesis that the Anti-Terrorist Fence likely had a significant impact on both the reduction of Palestinian attacks and in moving violence away from concentration of Israeli citizens.

Yet analyses left this basic are ultimately unsatisfying because they offer only a glimpse into the correlation of Israeli targeted killing and absence or presence of Palestinian attacks in a very basic time series or spatial analysis. Such analysis offers little insight into the causal mechanism in the cycle of violence and does not allow for an analysis of non-geo-located independent variables nor whether variables are even related. In this case, clearly adding arrest data to our analysis would address another major line of operation and would provide some insight into the relative impact of arrests in curbing terror attacks. While arrest data provides additional analytic rigor to the study of the Second Intifada data, simply looking at arrest data in isolation, in response to one additional line of operation, or analyzing arrest trends over time relative to terror attacks still only allows for a correlation of the two phenomena.

4. Regression Analysis

To address this analytic shortfall, we will turn to a more inclusive analysis to add to the simple time series review of the data in order to gain initial insight into the interrelationship of the three study variables introduced so far: targeted killings, arrests and the Anti-Terrorist Fence. By conducting a regression analysis of the aggregated data, we seek to uncover the causal mechanisms at work in the cycle of violence. Though a regression analysis will help to derive the relative impact of the various lines of operation under consideration, we recognize that the Second Intifada is not reducible to only three variables. Therefore, in our initial analysis we will use the error term of the regression equation to account for the impact of other Israeli lines of operation, but will add additional variables to our regression modeling in Chapter III. Shown below is the initial regression model utilized to begin a more detailed exploration of the effects of each line of operation used by Israel during the Second Intifada. As noted earlier, following chapters will use this basic formula to begin an analysis of the conflict and to better understand the relative impact of each line of operation in terms of strategic desired end state attainment.

The initial regression analysis will begin with the general form of the equation:

$$E(y \mid \mathbf{x}) = \exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \varepsilon)$$

In the above equation, we note the study or dependent variable as incidents of Palestinian attacks as a function of three independent variables (e.g., $\beta_1 x_1$) an intercept value (β_0) and an error term (ε) that represents the unknown impact of diplomacy, economic sanctions, checkpoints / barriers to movement, collective punishment, et al. The intercept value is the level of Palestinian violence that would occur in the absence of an Israeli counterterrorism campaign. Given the basic time-series analysis above, there is reason to believe the intercept value provides useful insight into the baseline level of violence, i.e., if Israel did nothing, there would still be a level of Palestinian attacks. The three independent variables operationalized at this point are: $\beta_1 x_1$ representing targeted killing, $\beta_2 x_2$ representing the Anti-Terrorist Fence, and $\beta_3 x_3$ representing Israeli arrests of Palestinian militants. As the analysis progresses in later chapters, we will add independent variables to the analysis in order to more fully develop the relative impact of each line of operation as well as developing an understanding of the impact of those actions currently included in the error term.

In the first instance of regression analysis, we seek to derive a more general understanding of the operative relationships among the three study variables. While a simple time interval represents a tempting measure of effectiveness, the sequence of attack and reprisal is not bounded simply by time. Therefore, considering both time *and* space in analyzing the effects of targeted killing operations is critical to forming a judgment of the efficacy of both individual cases at the tactical and operational levels as well as the aggregate effects these operations accrue to the overall strategic desired end state of such campaigns. By using an integrated model that considers not only the effects of targeted killing, but also examines the other lines of operation used in conjunction with targeted killing, we seek a better understanding of which operations more directly impacted the reduction or increase in Palestinian attacks. This is the basis for determining the success or failure of the Israeli targeted killing program as a line of operation within the overall Israeli counterterrorism campaign.

D. CHAPTER CONCLUSIONS AND WAY AHEAD

As noted in the introduction to this chapter, the events leading up to the Second Intifada were multifaceted. The events of the Second Intifada did little to provide a clear understanding of the forces at work in the violence between Israel and the Palestinians. These historical factors have made past treatment of the subject difficult and superficial. Similarly, as noted in Chapter I, previous analysis of this subject has shed little light into what actually is contributing to the success and failure of the Israeli response to the Second Intifada. The analysis in this chapter was constructed using a building block methodology to layer analytical frameworks in order to begin to reveal the complex forces at work. This analysis is useful because it shows how the many factors involved in the conflict interrelate and how the several variables involved have different levels of impact on the levels of violence.

We have demonstrated that a simple bivariate analysis of the relationship between targeted killing and Palestinian attacks are the inverse of the expected relationship. Given this finding, we then explored the relationship of these two variables over time. Again, the analysis revealed findings that were perhaps counterintuitive. That is to say, the time series analysis of the Israeli program of targeted killing appears to suggest a response relationship to Palestinian attacks and not pre-emptive—contrary to the stated purpose of the program. Yet, this analysis is not sufficient to prove the causal relationship and, indeed, may be a spurious finding. Thus, we undertook a geospatial analysis of the data in order to observe the data spatially. This analysis provided novel insight into patterns of violence in terms of both magnitude and location. Included in the stepwise geospatial analysis was the addition of the Anti-Terror Fence as a line of operation. The results of this analysis showed a general movement of violence south and west from the Israeli population centers along with a diminished magnitude of violence as the attacks migrated southwest.

These basic findings suggest a need to conduct a detailed regression analysis of the major lines of operation in order to understand the forces that influence the levels of violence during the Second Intifada as well as their relative impacts. This chapter merely

introduced the most basic structure of a regression model in order to lay out the major variables under consideration. In Chapter III, we more fully develop the model and begin to draw out additional variables from the error term of the basic model. Adding additional variables will help drive an understanding of which lines of operation aid the reduction in Palestinian attacks and which are either neutral or actually detract from Israeli desired end state attainment. Additionally, Chapter III will briefly explore vignettes of the conditions ongoing at the time analyzed. Through these vignettes, we attempt to provide some richness to the quantitative analysis in order to capture those actions that are difficult or impossible to quantify, yet may have significant impact on the conflict outcomes. We conclude Chapter III with a brief discussion of the analytic findings as well as their implications for future conflicts.

III. AN EMPIRICAL ANALYSIS OF THE EFFICACY OF TARGETED KILLING

A. A BRIEF VIGNETTE

On March 29, 2002, the IDF launched Operation Defensive Shield—in effect a reoccupation of the West Bank—in order to reassert control over that Palestinian population and “wage an uncompromising fight against this [Palestinian] terror, uproot these weeds, and smash their infrastructure.”⁶⁹ Earlier that month, small-scale IDF incursions into the West Bank resulted in a spike in Palestinian fatalities. Palestinian attacks that March also spiked to their highest levels, culminating with the March 27 suicide attack at Netanya’s Park Hotel that killed 25 civilians. As rationale for his decision to reenter the West Bank, Prime Minister Sharon offered to his cabinet, “Palestinians must be hit, and it must be very painful... We must cause them losses, victims, so that they feel a heavy price.”⁷⁰

In the months surrounding Operation Defensive Shield, admittedly a brief time-slice in the Second Intifada’s overall course, a number of Israeli lines of operation were in play. That is, there were a number of inputs into the system of violence that were presumably having some kind of effect on the output (Palestinian attacks). Some of those inputs included: Israel more than doubled the number of Palestinians in detention; episodes of targeted killing continued at a stable level during this time; construction of the Anti-Terrorist Fence had not yet begun, but deliberations were ongoing within the Israeli government (construction began in June 2002, just after Operation Defensive Shield officially concluded); both the magnitude and episodic count of Palestinian violence, as well as Israeli violence (episodes that were *not* targeted killings), was

⁶⁹ Ariel Sharon, “PM Sharon’s Address to the Nation,” *Israeli Ministry of Foreign Affairs*, March 31, 2002, <http://www.mfa.gov.il/MFA/Government/Speeches%20by%20Israeli%20leaders/2002/PM%20Sharon-s%20Address%20to%20the%20Nation%20-%2031-Mar-2002> (accessed on October 6, 2009).

⁷⁰ Matt Rees, et al., “Streets Red with Blood,” *Time Online Edition*, March 18, 2002, <http://www.time.com/time/magazine/article/0,9171,1002012,00.html> (accessed on October 6, 2009).

noticeably on the rise; and political maneuvers (both via internal and external actors) were ongoing in direct response to the spike in overall violence.

The analysis that follows in this chapter is not specific to the Operation Defensive Shield vignette. The forgoing brief discussion simply underscores the interactive nature of the variables at play. Targeted killing was certainly at work, but so were a host of other lines of operation. In order to untangle these variables and, most importantly, derive their relative weights of effort within this cycle of violence, we turn to regression analysis.

B. REGRESSION ANALYSIS OF FACTORS

While the preceding vignette neatly captures a moment in time when Israel prosecuted several lines of operation, it still fails to capture the relative impact of these lines of operation. That is to say, while the vignette acknowledges the existence of many areas of Israeli effort during Operation Defensive Shield, any understanding of the relative effectiveness of each of these efforts is uncertain at best—or worse, likely becomes even more confused as additional lines of operation are added to the analytical mix. What follows is a brief description of our data and methods, and then an iterative analysis of the factors employed during the Second Intifada by Israel. Using the regression model introduced in Chapter II, each step begins to draw out the relative effectiveness of Israeli operations during the Second Intifada.

1. Data and Methods

As was introduced in Chapter II, our primary data source was the compiled statistics from the B'Tselem website.⁷¹ For our dependent variable, we aggregated the episodes of Palestinian attacks (those resulting in Israeli deaths) to the monthly level beginning in October 2000 through December 2008.⁷² We followed the same methodology to derive the independent variable of targeted killing—again aggregating

⁷¹ B'Tselem, “Statistics.”

⁷² This aggregation yielded the 98 observations referenced in the below analyses—the number of months in the data range.

episodes to the monthly level over the same date range. Our independent variable of kilometers of Anti-Terrorist Fence completed was an amalgamation of data sources that included information from B'Tselem's compiled statistics, as well as from the United Nations' Office for the Coordination of Humanitarian Assistance⁷³ and Israel's Ministries of Foreign Affairs and Defense.⁷⁴ Our independent variable of the number of Palestinians detained by Israel also came from B'Tselem's compiled statistics.⁷⁵

We note that as this chapter builds, we attempt to bridge between the quantitative and qualitative spheres of analysis. In so doing, we account for time-lagged independent variables, control independent variables, and dummy independent variables. The time-lagged variables retain the same data source as the non-lagged variables from which they were derived. Similarly, the control variables are drawn from a simple histogram analysis of the datasets already discussed. The sources for the dummy variables are discussed at some length in Section C of this chapter.

Because we are attempting to explain variation in the count of Palestinian attacks, it is more appropriate to use models designed for count outcomes than a traditional linear regression model (i.e., ordinary least squares), which is designed for continuous variables and when used with counts can result in inefficient, inconsistent and biased estimates.⁷⁶ The Poisson regression model is the most basic count model and the one employed here.⁷⁷ It assumes that the probability of a count is determined by a Poisson distribution, where the mean of the distribution is determined by the model's independent variables. If y is a random variable indicating the number of times that an event has occurred, then the expected value of y can be written as:

⁷³ United Nations, "Barrier Gates Open."

⁷⁴ Israel Ministry of Foreign Affairs, "Israel Diplomatic Network"; Israel Ministry of Foreign Affairs, "Saving Lives – Israel's anti-terrorist fence"; Israel Ministry of Foreign Affairs, "Saving Lives – Israel's Security Fence"; and Israel Ministry of Defense, "Israel's Security Fence."

⁷⁵ B'Tselem, "Detainees & Prisoners."

⁷⁶ Scott J. Long, *Regression Models for Categorical and Limited Dependent Variables*, (Thousand Oaks, CA: Sage Publications, 1997), 217; and Scott J. Long and Jeremy Freese, *Regression Models for Categorical Dependent Variables Using Stata*, (College Station, TX: Stata Press, 2006), 349.

⁷⁷ We initially estimated our models using both Negative Binomial and Poisson regression that, when comparing their respective goodness-of-fit measures, suggested the choice of Poisson regression was more appropriate for modeling the data in this case.

$$E(y \mid \mathbf{x}) = \exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k + \dots + \beta_K x_K)$$

where β_0 indicates the estimated coefficient for the constant and $\beta_1 x_1$ through $\beta_K x_K$ indicate the estimated coefficients for the independent variables included in the model.⁷⁸

2. Iteration 1: Analysis of the Baseline Model

The original model from Chapter II addressed what we assessed to be the three lines of operation for Israel during the Second Intifada and is shown below with modified subscripts for our variables:

$$E(y_{PA} \mid \mathbf{x}) = \exp(\beta_0 + \beta_{TK} x_{TK} + \beta_{ATF} x_{ATF} + \beta_{DT} x_{DT} + \varepsilon)$$

Where:

y_{PA} = the number of Palestinian attacks

β_0 = an intercept value

$\beta_{TK} x_{TK}$ = the number of Israeli targeted killing episodes

$\beta_{ATF} x_{ATF}$ = the number of kilometers of Anti-Terrorist Fence completed

$\beta_{DT} x_{DT}$ = the change in the number of Palestinians detained by Israel

ε = error term

Our hypothesis for this first model is that, based on the initial temporal and spatial analysis of Chapter II, targeted killing will exhibit a positive effect on the rate of Palestinian attacks, while both the Anti-Terrorist Fence and detention of Palestinians will exhibit a negative effect. If the hypothesis is correct, these results will indicate that targeted killing was responsible for an increase in Palestinian attacks, while the construction of the wall and increased numbers of arrests would serve to reduce the levels of Palestinian attacks over the course of the Second Intifada. Furthermore, depending on

⁷⁸ Stata 10 (StataCorp. 2007) is used to estimate all of the models in this chapter. Of note, three of the independent variables included missing data at certain time points: the length of the Anti-Terrorist Fence, the number of detainees, and the number of homes destroyed (included in discussions further in the chapter). We used Stata 10's *ipolate* function to linearly interpolate/extrapolate to these missing values on these variables.

the size of the coefficient, these results would begin to provide a sense of the relative impact on the increase or decrease in the levels of Palestinian attacks.

<i>Depent Variable: Palestinian Attacks (resulting in Israeli deaths)</i>	Iteration (1)
Targeted Killing	.07909 (0.0296406)***
Kilometers of Anti-Terrorism Fence Completed (per 10 km)	-.0481516 (.0137842)****
Detainees (per 100 detainees)	-.0059536 (.0063514)
Constant	1.775083 (0.1566742)****
Observations	98
Log Pseudo-Likelihood	-157.80254
Pseudo R-squared	0.3789
BIC	333.945
AIC	323.6051
Robust standard errors in parentheses. ****significant at .1%; ***significant at 1% level; **significant at 5% level; *significant at 10% level	

Table 1. Analysis of the Baseline Model.⁷⁹

In Table 1, we note that the coefficient for targeted killing is positive and statistically significant, while the coefficients for both the Anti-Terrorist Fence and Israeli detentions are both negative and, at least for the Anti-Terrorist Fence, statistically significant. These results confirm our hypothesis and also begin to reveal a sense of the impact each line of operation has relative to the others. However, one must exercise a modicum of caution when directly comparing the values of these coefficients. Because

⁷⁹ Admittedly simplistic in this form, Tables 1-5 build on one another, showing the regression results of each iterative model. In each table, the numbered columns denote the model iteration and their variables' and fitness measures. A brief description of those variables and fitness measures is in the left-most column.

the variables are of different types, we cannot directly compare the size of their coefficients. Nonetheless, we then leverage these findings to begin investigating the percent change in expected counts of a per unit increase in each line of operation—we do exactly this at the conclusion of this chapter.

Finally, we note that this initial model is a reasonably good fit for the data with a relatively large negative log likelihood score and large AIC and BIC scores. These indicate that, while decidedly parsimonious, the model captures the variability in the lines of operation and their effects on the dependent variable. Nevertheless, the fit can be improved,⁸⁰ and from what we learned from the above vignette, the baseline model does not provide a complete picture of the observed variation in the levels of Palestinian attacks. For a better understanding of this variation, we turn to the next iteration of the model in the following section.

3. Iteration 2: Understanding the Impact of Other Violence

Based on the incomplete treatment of the previous iteration, we began a more in-depth regression analysis in an attempt to add explanatory power to our model. Based on an understanding of the case study, and our earlier suspicion that perhaps “violence begets violence,” we added another variable to our initial model: acts of Israeli violence that resulted in Palestinian deaths that were *not* targeted killing operations.⁸¹ Our regression analysis then took the general form of the equation:

$$E(y_{PA} \mid \mathbf{x}) = \exp(\beta_0 + \beta_{TK}x_{TK} + \beta_{ATF}x_{ATF} + \beta_{DT}x_{DT} + \beta_{NTK}x_{NTK} + \varepsilon)$$

⁸⁰ We draw attention to the variability in these measures across the iterative models. While general discussion of fitness will be presented in the text, in-depth analysis of various fitness measures is not included in this thesis.

⁸¹ As previously discussed, Israel has been responsible for the death of over 9,400 Palestinians over the course of the Second Intifada. Targeted killing operations account for an extremely small portion of those deaths (roughly 4 percent). If it is truly the case that ‘violence begets violence,’ we suspect that the scale and magnitude of the non-targeted killing episodes hold perhaps inherent explanatory power vis-à-vis the system of violence described in this thesis. As a proxy measure of this hypothesis, we built a scatter plot (not shown) similar to Figures 1-3 above plotting Palestinian attacks versus Israeli violent incidents that were *not* targeted killing operations. That scatter plot showed the direction of the band of observations of Palestinian attacks becomes higher on the y-axis as the observations of non-targeted killings along the x-axis increase. Thus, in the first step of our iterative analysis of our model, we chose to add non-targeted killing episodes to the equation. As before, data on these episodes was obtained from B’Tselem (B’Tselem, “Statistics: Fatalities”).

where $\beta_{\text{NTK}}x_{\text{NTK}}$ represents the addition of the independent variable of episodes of non-targeted killing operations and all other variables remain as shown above in the first iteration.

Our hypothesis is that with the addition of the non-targeted killing variable, regression analysis will reveal a positive coefficient. That is, Palestinian deaths resulting from Israeli non-targeted killing operations and/or actions—in the aggregate—have the effect of inciting violence, increasing the level Palestinian attacks against Israel. The other variables should retain their relative positive or negative coefficients.

<i>Depent Variable: Palestinian Attacks (resulting in Israeli deaths)</i>	Iteration (1)	Iteration (2)
Targeted Killing	.07909 (0.0296406)***	.0710679 (.0351212)**
Kilometers of Anti-Terrorism Fence Completed (per 10 km)	-.0481516 (.0137842)****	-.039109 (.013887)***
Detainees (per 100 detainees)	-.0059536 (.0063514)	-.0082295 (.0065457)
Non-Targeted Killing		.0088188 (.0060926) [^]
Constant	1.775083 (0.1566742)****	1.533947 (.2140839)****
Observations	98	98
Log Pseudo-Likelihood	-157.80254	-154.29693
Pseudo R-squared	0.3789	0.3927
BIC	333.945	331.5187
AIC	323.6051	318.5939
Robust standard errors in parentheses.		
****significant at .1%; ***significant at 1% level;		
**significant at 5% level; *significant at 10% level		
[^] This value was .048 away from being significant at the 10% level		

Table 2. Analysis of the Baseline Model, Adding Non-Targeted Killing.

Table 2 contains the results of a regression analysis of the model described in Iteration 2 (as seen in column 2, with column 1 containing the results of the first iteration for a side-by-side comparison). Interestingly, and as hypothesized, the non-targeted killing variable carries a positive coefficient, although a relatively small one with a low level of statistical significance. Additionally, the statistical significance of our coefficients drops between iterations one and two. Regardless, as we discovered in Table 1, targeted killing still leads to an increase in Palestinian attacks, while the Anti-Terrorist Fence and detentions lead to a decrease. Overall, our fitness and constant scores, as well as the increase in standard error values (from the first iteration), suggest this model is not as adequate as our first iteration.⁸²

Violence perpetrated by Israel against Palestinians—whether targeted killing, riot control gone bad, or any range of military operation in between—seems to have a positive effect on the level of Palestinian violence directed against Israel. And, at the very least, Israel’s actions along these lines do not help to reduce Palestinian attacks. Still, we suspect that the non-targeted killing episodes play a role in this dynamic, but perhaps in a more interactive sense with as-yet un-captured variables.

4. Iteration 3: Past Violence Matters in Current Analysis

As the previous iteration suggests, episodes of Israeli violence—targeted or not—appear to increase the levels of Palestinian attacks. Our time-series analysis from Chapter II also suggests that this impact may bleed over from one time period to another. In other words, past violence may have some influence on the levels of future violence. In this iteration, we explore whether targeted killing events of previous months have a positive or negative impact on the levels of Palestinian attacks in the current period of analysis. Additionally, we investigate the impact of the previous month levels of Palestinian attacks as a time-lagged auto-regression variable.

⁸² Again, we draw attention to the fitness scores in the bottom section of the table.

After modifying the model from Iteration 2 for inclusion of the time lagged variables, the model equation becomes:

$$E(y_{PA} \mid \mathbf{x}) = \exp(\beta_0 + \beta_{TK}x_{TK} + \beta_{ATF}x_{ATF} + \beta_{DT}x_{DT} + \beta_{NTK}x_{NTK} + \beta_{TK-1}x_{TK-1} + \beta_{PA-1}x_{PA-1} + \varepsilon)$$

where $\beta_{TK-1}x_{TK-1}$ represents the addition of the independent variable of episodes of targeted killing operations from the previous month and $\beta_{PA-1}x_{PA-1}$ represents the addition of the independent variable of episodes of Palestinian attacks from the previous month. All other variables remain as shown above in the second iteration.

Our hypothesis is that actors in this system do not forget previous acts of violence and are, in fact, influenced to act (or not act) by the events and conditions of previous time periods. In terms of the regression analysis, the introduction of a lagged variable for instances of Israeli targeted killing should produce a negative coefficient if the program is working, but needs additional time to reveal its effects. If, as we see in our earlier analysis, the targeted killing program is counterproductive, the coefficient will remain positive. Based on our findings above and in Chapter II, we expect a positive coefficient in the lagged targeted killing variable.

The time-lagged variable for Palestinian attacks should reveal a negative coefficient if continued Palestinian attacks are simply “wearing out” Palestinian groups. Alternatively, if the attacks serve to sustain or increase the morale of Palestinian actors, the coefficient would be positive. Our hypothesis is that the former outcome, a “wearing out” effect, is more likely and we expect a negative coefficient.

<i>Depent Variable: Palestinian Attacks (resulting in Israeli deaths)</i>	Iteration (1)	Iteration (2)	Iteration (3)
Targeted Killing	.07909 (0.0296406)***	.0710679 (.0351212)**	.0756638 (.0379115)**
Kilometers of Anti-Terrorism Fence Completed (per 10 km)	-.0481516 (.0137842)****	-.039109 (.013887)***	-.0403573 (.0144412)***
Detainees (per 100 detainees)	-.0059536 (.0063514)	-.0082295 (.0065457)	-.0108311 (.0070556) [#]
Non-Targeted Killing		.0088188 (.0060926) [^]	.0120916 (.0059949)**
Targeted Killing (lagged by 1 Month)			.0081596 (.02999)
Palestinian Attacks (lagged by 1 Month)			-.0476828 (.0262158)*
Constant	1.775083 (0.1566742)****	1.533947 (.2140839)****	1.742337 (.2472228)****
Observations	98	98	98
Log Pseudo-Likelihood	-157.80254	-154.29693	-152.60996
Pseudo R-squared	0.3789	0.3927	0.3993
BIC	333.945	331.5187	337.3147
AIC	323.6051	318.5939	319.2199

Robust standard errors in parentheses.

****significant at .1%; ***significant at 1% level; **significant at 5% level; *significant at 10% level

[^]This value was .048 away from being significant at the 10% level

[#]This value was .025 away from being significant at the 10% level

Table 3. Analysis of the Baseline Model, Adding Non-Targeted Killing, Lagging Targeted Killing and Palestinian Attacks.

Table 3 contains the results of a regression analysis of the model described in Iteration 3. Interestingly, the one month lagged Palestinian attacks variable carries a relatively large negative coefficient and is statistically significant. The time lagged auto-

regression value is nearly on par with the measure for the impact of the Anti-Terrorist Fence—itself a significant contributor to reduction on Palestinian attacks. This finding suggests that our hypothesis, the presence of a “wearing out” effect, merits additional consideration. The one month lagged value for targeted killing is positive, but in a very weak sense. The coefficient for this variable is small and not statistically significant, suggesting both that the programmatic effects may require additional time to work but the results may vary widely across the spectrum of effectiveness as time progresses. That is to say, as the time from an instance of a targeted killing operation increases, it appears to be less positive, but the ability to ascertain the true impact becomes more problematic—as evidenced by the lack of statistical significance for this variable and coefficient.⁸³

Additionally, the statistical significance of the variable coefficients has increased from Iteration 2 and the standard errors have, on balance, reduced slightly with the introduction of the time-lagged variables, suggesting that this model may be slightly more adequate than that of Iteration 2. Furthermore, as we noted in Tables 1 and 2, the targeted killing coefficient is still positive, while the coefficients for Anti-Terrorist Fence and detentions remain negative. Again, this suggests that the effects of targeted killing act to *increase* Palestinian attacks (in the aggregate), while the effects of the Fence act to *decrease* Palestinian attacks (in the aggregate). Overall, the fitness and constant scores for the third model suggest it is not as adequate as our first but is better, on balance, than the second.⁸⁴ That said, the current model is beginning to provide a more complete picture of the interactive and iterative nature of this system. We suspect additional variables that control for within-year variation of variable coefficients may aid in teasing out additional analytic value from this model.

⁸³ Though we do not include further time lagged analysis in this manuscript, we ran several iterations of longer time lag intervals in order to ascertain if some inflection point for the targeted killing variable *ever* caused the coefficient to become negative—in essence helping to achieve the desired end state of reducing Palestinian levels of violence. At the six month mark, i.e., $\beta_{TK-6}X_{TK-6}$, the coefficient was negative, but with a large standard error and with a very large p-value that indicated the introduction of random effects vice causality. As such we limit the introduction of time lagged variables to the one month level to introduce the concept that may be studied in greater detail by future researchers.

⁸⁴ See the fitness scores in the bottom section of Table 3.

5. Iteration 4: Controlling for Environmental Factors

From the analysis of the previous iterations of the model—and having captured those variables that are perhaps the easiest to quantify, lag, analyze and interpret—we turned to controlling for environmental factors that may have skewed the results of our regressions. Our model then took the form of:

$$E(y_{PA} \mid \mathbf{x}) = \exp(\beta_0 + \beta_{TK}x_{TK} + \beta_{ATF}x_{ATF} + \beta_{DT}x_{DT} + \beta_{NTK}x_{NTK} + \beta_{TK-1}x_{TK-1} + \beta_{PA-1}x_{PA-1} + \beta_{SUM}x_{SUM} + \beta_{CY02}x_{CY02} + \varepsilon)$$

where $\beta_{SUM}x_{SUM}$ represents the addition of the control variable of the summer months and $\beta_{CY02}x_{CY02}$ represents the addition of the control variable of calendar year 2002.

Our hypothesis is that factors such as the calendar year or season may impact the model, requiring we hold these factors constant to determine the “true” relationships between our study variables. The data seem to suggest a general increase in the propensity for violent activity as seasonal weather heats up over the summer months. For our thesis, we include May–September in the “summer” control variable.⁸⁵ Similarly, the levels and magnitude of violence in calendar year 2002 suggest that that year has an effect on the analysis of the aggregate system of violence—the spikes in Palestinian attacks and Israeli non-targeted killing episodes in 2002 are the highest yet of the Second Intifada.⁸⁶

⁸⁵ We built rudimentary histograms (not shown) plotting normalized scores for episodes of violence (targeted killing, Palestinian attacks and non-targeted killing) versus calendar month. The results of the histograms suggested the delineation of this variable’s parameters.

⁸⁶ This claim is based on normalized episode counts. In the case of non-targeted killing, the 2000 data is clearly an outlier to the remaining trend for that dataset.

<i>Depent Variable: Palestinian Attacks (resulting in Israeli deaths)</i>	Iteration (1)	Iteration (2)	Iteration (3)	Iteration (4)
Targeted Killing	.07909 (0.0296406)***	.0710679 (.0351212)**	.0756638 (.0379115)**	.0898683 (.0376532)**
Kilometers of Anti-Terrorism Fence Completed (per 10 km)	-.0481516 (.0137842)****	-.039109 (.013887)***	-.0403573 (.0144412)***	-.0177135 (.0169507)
Detainees (per 100 detainees)	-.0059536 (.0063514)	-.0082295 (.0065457)	-.0108311 (.0070556) [#]	-.0226457 (.0082659)***
Non-Targeted Killing		.0088188 (.0060926) [^]	.0120916 (.0059949)**	.013895 (.0044081)***
Targeted Killing (lagged by 1 Month)			.0081596 (.02999)	.0254436 (.0301812)
Palestinian Attacks (lagged by 1 Month)			-.0476828 (.0262158)*	-.0836695 (.0222317)****
Summer				.3004585 (.1195124)**
2002				.4187588 (.1701267)**
Constant	1.775083 (0.1566742)****	1.533947 (.2140839)****	1.742337 (.2472228)****	1.859897 (.2235774)****
Observations	98	98	98	98
Log Pseudo-Likelihood	-157.80254	-154.29693	-152.60996	-148.18801
Pseudo R-squared	0.3789	0.3927	0.3993	0.4167
BIC	333.945	331.5187	337.3147	337.6407
AIC	323.6051	318.5939	319.2199	314.376

Robust standard errors in parentheses.

***significant at .1%; **significant at 1% level; *significant at 5% level; .significant at 10% level

[^]This value was .048 away from being significant at the 10% level

[#]This value was .025 away from being significant at the 10% level

Table 4. Analysis of the Baseline Model, Adding Non-Targeted Killing, Lagging Targeted Killing and Palestinian Attacks, Controlling for Summer and 2002.

In Table 4, the estimated respective coefficients for “summer” and “2002” are substantively positive and statistically significant at the one percent level—suggesting these variables are at work in the system of violence in a way that makes sense within the context of the case study. Additionally, with the exception of the “Fence” variable, all of the factors in this model not only increased in value, but also in terms of statistical significance over the previous model. This suggests that we have a better explanatory model in this iteration and can trust the coefficients of the variables (even though our log likelihood and AIC scores decreased slightly from the previous the model).⁸⁷

As we prepare to shift gears in the next section of this chapter, the discussion of coefficients becomes important. The overall fitness scores of the model have dropped somewhat, but the coefficients are largely statistically significant. The coefficients for targeted killing, non-targeted killing and targeted killing lagged by one month remain positive, and, with the exception of the lagged targeted killing variable, are statistically significant. This appears to confirm our general hypothesis that “violence begets violence”—that is, as the episodes of targeted killing or non-targeted killing increase, so do levels of Palestinian violence. Conversely, the continued negative coefficients for the Fence and detainee variables square with our hypothesis that the more non-kinetic Israeli lines of operation have an impact in reducing the levels of Palestinian attacks over time. Additionally, the negative lagged Palestinian attack coefficient suggests that Palestinian violence itself contributes to a reduction in Palestinian violence (i.e., the Palestinians are, in fact, “wearing themselves out”). Finally, our recently-introduced control variables are also positive and statistically significant, indicating we have accurately controlled for those factors in our model.

Over the past few pages, we have iteratively built upon the basic model presented in Chapter II. Through Iteration 4, we have addressed more than double the number of original factors, while still remaining (in our estimation) parsimonious. In the next section, we will attempt to lay the groundwork for further unpacking this system of violence, by addressing those factors that seem (*prima facie*) to be unavailable for the

⁸⁷ As noted in other iterations of our regression analysis, we controlled for a variety of months and years, with the variables presented in our tables carrying the only statistically significant values.

kind of analysis presented in this thesis, but nonetheless have an impact on the situation on the ground in Israel and the Occupied Territories. This discussion is important in that it at least scratches the surface of empirically analyzing some of the critical social interactions involved in this system of violence. We provide detailed descriptions of these factors (peace talks, Israeli incursions into Palestinian-controlled territory, and demolitions of Palestinian homes) before offering a quantitative analysis of their consequences.

C. THE ERROR TERM UNPACKED

In an effort to capture the more nuanced, but still significant, Israeli lines of operation, this section identifies three additional variables that help untangle the complexities surrounding Israeli-Palestinian violence during the Second Intifada. Though not exhaustive, these variables include the impact of peace talks, major Israeli military incursions into the Occupied Territories and the demolition of Palestinian homes in the Occupied Territories by Israel.⁸⁸ The effects of these actions are difficult to quantify by nature, but we hypothesize they are significant to the conflict nonetheless.

1. Peace Talks

To presuppose that all Israelis and Palestinians view peace talks favorably ignores reality. The more extreme factions on both sides of the issue—whose popularity changes according to levels of violence—restrict their respective governments’ abilities to negotiate. As a whole, Israel has to contend with the strong influence of its more conservative elements, “the religious Zionists (who view possession of Biblical land as part of God’s messianic plan) and the ultra-orthodox (who seek enforcement of age-old

⁸⁸ We use the variable of home demolition as a proxy for the Israeli practice of collective punishment. For a different empirical treatment of this variable, see, for example, David A. Jaeger and M. Daniele Paserman, “The Cycle of Violence? An Empirical Analysis of Fatalities in the Palestinian-Israeli Conflict,” *Centre for Economic Policy Research*, Discussion Paper Series No. 5320, October 2005, who use barriers to movement (regulation of border checkpoints) as a proxy.

rabbinic codes).”⁸⁹ Both of these groups are pro-settlement, and both are a significant element in the Israeli voting population who tend to support conservative Israeli political parties such as the Likud Party. Nonetheless, the Likud Party is not without opposition within Israel. Among its more compelling challengers is the newly-created centrist Kadima Party, that is generally viewed as pragmatic by centrists, but too conciliatory by the Israeli right. Since the beginning of the Second Intifada, the Israeli prime minister has changed four times making negotiations with the Palestinians difficult.⁹⁰

In the Occupied Territories, the fate of the Palestinian State does not solely lie with Israeli action, but also depends on how well HAMAS and Fatah, the two leading Palestinian political parties, are able and willing to cooperate with one another. Fatah is composed of several secular nationalist Palestinian organizations and has generally controlled internal and external politics since the 1967 Six Day War with Israel. Fatah’s political agenda is generally described as being more practical and fluid (than HAMAS’) but is hampered by internal corruption. HAMAS, by contrast, is a hard line, Islamic, anti-Israeli organization whose 1987 charter called for the destruction of the Jewish state and has often been at odds with Fatah’s political agenda. Currently, HAMAS controls the Gaza Strip and Fatah controls the West Bank. HAMAS enjoys the support of Iran and Syria, while secular Arab governments such as Jordan and Egypt generally support Fatah.⁹¹ As long as the two sides remain divided, peace talks with the Israeli government remain pointless.

On July 11, 2000, the Camp David Summit was supposed to finally broker a lasting peace between the Palestinians and Israelis. Palestinian Chairman Yasser Arafat and Israeli Prime Minister Ehud Barak met at Camp David along with President Bill Clinton and top members of the U.S. cabinet to negotiate a final status settlement.

⁸⁹ International Crisis Group, “Israel’s Religious Right and the Question of Settlements,” Middle East Report No. 89, 20 July 2009, 1, http://www.crisisgroup.org/library/documents/middle_east_north_africa/arab_israeli_conflict/89_israels_religious_right_and_the_question_of_settlements.pdf (accessed on October 15, 2009).

⁹⁰ International Crisis Group, “Israel’s Religious Right,” 4.

⁹¹ Rawhi Afaghani, “Mr. President, the intra-Palestinian dispute is an obstacle to peace”, Common Ground News Service, 11 June 2009, <http://www.commongroundnews.org/article.php?id=25663&lan=en&sid=0&sp=0> (accessed on October, 12, 2009).

Unfortunately, after hard-fought negotiations, both sides refused to budge on key issues (that centered on territory and right-of-return for Palestinian refugees). While Arafat returned to the West Bank a hero for not conceding on Palestinian demands, Barak faced a no-confidence vote in the Knesset, that he barely survived.⁹² Fallout from the Camp David Summit, coupled with Ariel Sharon's visit to the Temple Mount, helped to instigate the Second Intifada.

The Camp David Summit set the stage for further negotiations at the Taba Summit in January 2001.⁹³ Coincident to these talks, violence from the nascent Second Intifada was on the rise, Israel was one month away from voting in hard-line Likud Prime Minister Ariel Sharon, and President Clinton was a lame duck president. The new U.S. administration did not give the Taba Summit momentum, and Prime Minister Sharon pledged during his campaign to retaliate harshly to the recent spike in Palestinian violence. Once elected, Sharon proclaimed the agreements reached during the Taba Summit irrelevant.⁹⁴

In March 2002, then-acting Saudi Regent Crown Prince Abdullah brought together leaders from Arab countries to try to resolve both the Palestinian-Israeli conflict and the Arab-Israeli conflict with one proposal. The Arab Peace Summit in Beirut offered what amounted to a land-for-peace deal to the Israelis. The night prior to the proposal's announcement, a HAMAS suicide bomber attacked the Park Hotel in Netanya in what is known as the Passover Massacre. Israeli Foreign Minister Shimon Peres responded by stating Israel would be ready to negotiate when the Palestinians ceased terrorist acts against Israel, and thus ended any momentum of the Saudi peace initiative.⁹⁵

⁹² Ian J. Bickerton and Carla L. Klausner, *"A History of the Arab Israeli Conflict"*, 329–330.

⁹³ The Taba Summit was a hastily conceived summit hosted by Egypt in December 2000 through January 2001 with the idea of reaching a compromise between the Israeli and Palestinian red lines that arose during the Camp David Summit. President Bill Clinton developed a series of compromise proposals including the splitting up of Jerusalem. See, for example, Ian J. Bickerton and Carla L. Klausner, *"A History of the Arab Israeli Conflict,"* 277–278.

⁹⁴ Katie Rooney, "A timeline of the Peace Process," Time Magazine Online Edition, http://www.time.com/time/specials/2007/article/0,28804,1644149_1644147_1644141,00.html (accessed on October 9, 2009).

⁹⁵ Ian J. Bickerton and Carla L. Klausner, *A History of the Arab Israeli Conflict*, 352.

The Road Map for Peace was written by the U.S. State Department based on a speech delivered by President Bush in 2002, outlining his policy toward the Israeli-Palestinian conflict. During June 2-4, 2002, with the backing of the Quartet (UN, EU, Russia, and the U.S.), President Bush met with representatives from Egypt, Saudi Arabia, Jordan, and Bahrain, in addition to Prime Minister Sharon and President Abbas. The Roadmap called for a cessation of hostilities to allow for negotiations to begin and for the Quartet to monitor progress and stay engaged with the peace process. Additionally, the Roadmap called for Palestinian statehood by 2005—contingent on Israeli and Palestinian sentiment.⁹⁶

The Geneva Accords, launched in December 2003, was an unofficial initiative to reach a settled agreement centered on establishment of a Palestinian state in most of the West Bank and Gaza Strip. The Accords stipulated that Israel remove all settlements not in Israeli territory and give up equal land (adjacent to Gaza) in return for any lands Israel kept outside of the 1967 borders. In return, the Palestinian Authority would recognize the State of Israel, cease all violence against Israel, and disarm and disbanded all illegal armed groups. Additionally, the plan specified Israel would give back most of its territory in return for the Palestinian Authority agreeing to restrict the right-of-return of Palestinian refugees to a predetermined number Israel would later dictate. Both governments ultimately renounced the initiative.⁹⁷

After the death of Arafat in November 2004, and the subsequent election of Abbas, the Sharm el-Sheikh Summit in February 2005 opened an opportunity for a negotiated truce between Sharon and Abbas. Sharon made good on his promise to withdraw all settlements in the Gaza Strip and four in the West Bank and halt home demolitions as retribution. The Gaza disengagement plan was implemented in August 2005, to the chagrin of Sharon's right-wing political base, and set up confrontations between the IDF and Jewish settlers. Abbas viewed the disengagement plan as a political

⁹⁶ Sharon Otterman, "Middle East: Road Map to Peace," *Council on Foreign Relations*, http://www.cfr.org/publication/7831/middle_east.html (accessed October 12, 2009).

⁹⁷ The Geneva Accord, Haaretz.com, 19 October 2003, <http://www.haaretz.com/hasen/pages/ShArt.jhtml?itemNo=351461&contrassID=2&subContrassID=1&sbSubContrassID=0&listSrc=Y> (accessed on October 15, 2009).

victory for the Palestinian Authority, but HAMAS claimed victory and further legitimized its armed resistance against Israel. The Palestinian Electorate responded by voting 76 HAMAS candidates to the Palestinian Authority Legislature on January 26, 2006, giving HAMAS a majority of the 136 seats available.⁹⁸

By the end of 2006, tensions were rising between the Fatah and HAMAS as living conditions deteriorated throughout the Occupied Territories. Armed supporters of Fatah and HAMAS clashed repeatedly, and more than 100 Palestinians were killed in the violence. On February 8, 2007, in Mecca, Saudi Arabia, Fatah and HAMAS signed an agreement to form a Palestinian national unity government aimed at ending both the violence and the international aid embargo.⁹⁹ The marriage was short lived, as the new government was unable to lift the economic embargo due to many ideological differences on how to proceed with peace negotiations. Fighting broke out in May, and by June Fatah and HAMAS officially split—with HAMAS controlling the Gaza Strip and Fatah staying in power in the West Bank. June 2007 saw the worse intra-Palestinian violence yet, as both sides jockeyed for control of their respective spans of control. In total, 2007 saw 353 Palestinians killed by other Palestinians, with 160 killed in June alone.¹⁰⁰

2. Israeli Incursions

Israeli incursions into the Palestinian Occupied Territories continue to stoke resentment from the Arab world and are often a source of international criticism levied against the Israeli government. As a result, the IDF and the Israeli government have suffered a series of international rebukes with each subsequent incursion into the Palestinian Occupied Territories.¹⁰¹ The nature of the incursions is viewed as an affront

⁹⁸ Scott Wilson, " Hamas Sweeps Palestinian Elections, Complicating Peace Efforts in Mideast," *The Washington Post Online Edition*, 27 January 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/01/26/AR2006012600372.html#> (accessed October 10, 2009).

⁹⁹ Scott Wilson, "Palestinian Legislators Approve Unity Cabinet: Hamas, Fatah Diverge in Policy Remarks," *The Washington Post Online Edition*, March 18, 2007, <http://www.washingtonpost.com/wp-dyn/content/article/2007/03/17/AR2007031700224.html> (accessed October 12, 2009).

¹⁰⁰ B'Tselem, "Violations of the Human Rights of Palestinians by Palestinians," http://www.btselem.org/English/Inter_Palestinian_Violations/ (accessed on October 12, 2009).

¹⁰¹ Gal Luft, "The Palestinian H-Bomb: Terror's Winning Strategy," *Foreign Affairs* 81, no. 4 (July-August, 2002), 3-5, <http://www.jstor.org/stable/20033234?seq=4> (accessed October 16, 2009).

to the dignity and sovereignty of the Palestinian people. Furthermore, the incursions often bring a heavy handed military presence that further stokes the flames of animosity between the IDF and Palestinians in the Occupied Territories.

In March 2002, as a result of a rash of suicide attacks culminating with the Passover Massacre in which a Palestinian Suicide Bomber killed 29 Israelis in Netanya, Prime Minister Sharon launched Operation Defensive Shield in order to destroy the Terrorist infrastructure in the occupied territories.¹⁰² The Operation took place in major Palestinian population centers in both the West Bank and Gaza Strip. The results were mixed, while the Israelis announced the success of the operation, Palestinians, NGOs and the international press claimed that the IDF used excessive force and did not discriminate between combatant and non-combatants.¹⁰³

Operation Rainbow, conducted by the IDF from May 18-23, 2004, concentrated on the Palestinian city of Rafah and was intended to halt the flow of artillery, rockets, missiles, rocket-propelled grenade launchers, assault rifles, and suicide belts through tunnels from Egypt directly to the Gaza Strip.¹⁰⁴ Israeli troops destroyed several tunnels and met their tactical objective but when the IDF killed eight Palestinian protestors, the operation quickly turned into a media nightmare for the Israelis.¹⁰⁵ As noted above, the IDF tactical successes were marred by the inability to consolidate the gains into strategic benefit.

¹⁰² See the opening vignette in this chapter.

¹⁰³ Ian J. Bickerton and Carla L. Klausner, *A History of the Arab Israeli Conflict*, 352.

¹⁰⁴ Israel Ministry of Foreign Affairs, "Behind the Headlines: Rafah. Gateway to Terrorism"; 20 May, 2004. http://www.mfa.gov.il/MFA/MFAArchive/2000_2009/2004/5/Behind+the+Headlines+-+Rafah+Gateway+to+terrorism.htm (accessed October 15, 2009).

¹⁰⁵ For the media backlash on Operation Rainbow, please see, for example, Human Rights Watch (<http://www.hrw.org/en/node/11963/section/15>) and Haaretz.com (<http://www.haaretz.com/hasen/spages/431683.html>) that discuss the humanitarian impact of Operation Rainbow.

From June to August 2006, The IDF conducted Operation Summer Rain with stated goals of the return of recently abducted IDF soldier Corporal Shalit and preventing the launching of Qassam rockets into Israel.¹⁰⁶ In addition to Operation Summer Rain, Israel prosecuted the Second Lebanon War in July 2006. Not wanting to open a second front in Northern Israel, for a variety of economic and tactical reasons, the Israelis', "...restraint ended on July 12, 2006, when Hezbollah terrorists attacked an Israeli patrol on the Israeli side of the border and abducted two soldiers."¹⁰⁷ The results of the Second Lebanon War are generally seen as an embarrassment to the IDF and Israel for their failure to properly assess the Hezbollah military threat (which stemmed from an underestimation of Israel's enemy), as well as their failure to adequately source the IDF (as a result of the northern and southern fronts).¹⁰⁸

From December 27, 2008, to January 18, 2009, The IDF conducted Operation Cast Lead in an attempt to destroy HAMAS weapons, specifically rocket caches, and stop rocket and mortar barrages originating from the Gaza Strip. B'Tselem interviewed several Palestinian groups in Gaza who had fired rockets into Israel and who admitted that their intentions were to kill Israeli civilians. Regardless of HAMAS' blatant disregard for International law, the Palestinians drew international sympathy from the Operation, while the Israelis were harshly condemned by human rights organizations for using excessive force and not doing enough to use force discriminately. B'Tselem estimates the number of Palestinians killed during Operation Cast Lead was 1,387, of which only 330 were verified as taking part in hostilities.¹⁰⁹

¹⁰⁶ For a detailed recounting of Operation Summer Rain, see the reference articles as published by the Israeli Ministry of Foreign Affairs http://www.mfa.gov.il/MFA/MFAArchive/2000_2009/2006/Gaza%20kidnapping%2025-Jun-2006.

¹⁰⁷ Ephraim Inbar, "How Israel Bungled the Second Lebanon War," *Middle East Quarterly*, Summer 2007, 57–65. <http://www.meforum.org/1686/how-israel-bungled-the-second-lebanon-war>.

¹⁰⁸ Ephraim Inbar, "How Israel Bungled," 57–65.

¹⁰⁹ B'Tselem: The Israeli Information Center for Human Rights in the Occupied Territories, "B'Tselem's investigation of Fatalities during Operation Cast Lead," 2009, 1–2, http://www.btselem.org/Download/20090909_Cast_Lead_Fatalities_Eng.pdf (accessed October 14, 2009).

3. Home Demolitions

After the capture of the West Bank and the Gaza Strip during the 1967 Six Day War, “Israel has implemented a policy of demolishing and sealing houses in the West Bank and Gaza Strip as a punitive measure against the Palestinian population.”¹¹⁰ Israel has used this method periodically and to varying degrees but initiated the program in earnest in October 2001, just over a year after the outbreak of the Second Intifada.

The Israeli government states three reasons for destroying Palestinian homes: legality (homes built without permits), punishment, and security (military reasons).¹¹¹ Israel reintroduced punitive home demolitions in October 2001 to punish any Palestinian, including family and support systems, who either conducted or was involved in acts of violence against Israel citizens. Home demolition for military purposes was conducted mainly in the Gaza Strip to ensure the security of Israeli settlements, when they were still there, or to clear security zones along the border with Egypt.¹¹² We will explore the actual impact of this line of operation in the following section.

In his book on the First Intifada, Brigadier General Ariyeh Shalev examined the effect of home demolitions on the scope of violence. He found that the number of violent events did not diminish following house demolitions, and at times even rose.¹¹³ In another book, *The Seventh War*, the authors studied the effects of home demolitions during the Second Intifada. While conducting research, the authors discovered an internal IDF report that “stated there was no proof of the deterrent effect of house demolitions, and that the number of attacks even rose a few months after implementation of the policy began.”¹¹⁴ These two statements are significant and are meant to clearly indicate the adverse effects home demolition have in preventing further instances of

¹¹⁰ B’Tselem: The Israeli Information Center for Human Rights in the Occupied Territories, “House Demolitions as Punishment,” http://www.btselem.org/english/Punitive_Demolitions/Index.asp (Accessed on October 14, 2009). For the purposes of our thesis, we focus on the punishment and security implications—vice the legal aspects—of this policy.

¹¹¹ B’Tselem, “Statistics.”

¹¹² B’Tselem, “House Demolitions as Punishment.”

¹¹³ Ariyeh Shalev as cited in B’Tselem, “House Demolitions as Punishment.”

¹¹⁴ Amos Harel and Avi Isacharoff as cited in B’Tselem, “House Demolitions as Punishment.”

Palestinian violence. Table 5 shows the yearly aggregate number of home demolitions conducted during the Second Intifada.

	Homes Destroyed as Punishment	Homes Destroyed for Security	Total
2001	10 (from October)	0	10
2002	251	0	251
2003	225	0	225
2004	177	1404	1581
2005	0	19	19
2006	0	316	316
2007	0	43	43
2008	0	141 (through June)	141

Table 5. Palestinian Homes Destroyed (2001-2008).¹¹⁵

In February 2005, following the Sharm el-Sheikh Summit, Defense Minister Shaul Mofaz put a halt to punitive home demolitions.¹¹⁶ One reason for the change in policy may have been the detrimental effects of the policy. If so, that does not explain the continuation of the demolitions under the guise of security. Another reason the demolitions continued may have been to give Fatah Leader and Palestinian Prime Minister Abbas political credibility against rival HAMAS. As stated above, military home demolitions were conducted for security purposes. In 2004, we see a spike in the aggregate numbers of homes destroyed for security (conducted by the IDF). A closer look at the data shows that 511 homes were destroyed in May 2004, corresponding with Operation Rainbow in the Gaza Strip where the IDF was clearing security threats to further isolate HAMAS in an attempt to secure the Israeli border with Gaza.

The three new variables introduced in this section—peace talks, Israeli incursions, and home demolitions—suggest both that the complexity and passions surrounding the Second Intifada are difficult to untangle and that these may have a significant impact on levels of Palestinian attacks. The Israeli and Palestinian territorial claims have a

¹¹⁵ This table was built using data from B'Tselem's compiled statistics. See B'Tselem, "Statistics."

¹¹⁶ B'Tselem, "House Demolitions as Punishment."

significant influence on their choices of course of actions. Similarly, IDF incursions into the Occupied Territories, perhaps loosely coupled with the demolition of homes, appear to alter the conditions that drive Palestinian attacks and Israeli responses. In order to better unpack the full story, in the next section we attempt to measure the relative impact of these three variables in order to better understand to what degree each may drive Palestinian attack levels. By operationalizing these variables, we hypothesize the model will lend additional explanatory value to the study variable that is the efficacy of targeted killing.

D. ITERATION 5: ACCOUNTING FOR THE UNQUANTIFIABLE

The previous section bridges the empirical analysis of Iterations 1–4 to this section that incorporates the three new variables discussed above. From the analysis of the previous iterations of the model, we begin to incorporate the final set of variables that are not quantifiable, yet have significant impact on the environment in which the Second Intifada is fought. Given these latest additions, our model takes the form:

$$E(y_{PA} | \mathbf{x}) = \exp(\beta_0 + \beta_{TK}x_{TK} + \beta_{ATF}x_{ATF} + \beta_{DT}x_{DT} + \beta_{NTK}x_{NTK} + \beta_{TK-1}x_{TK-1} + \beta_{PA-1}x_{PA-1} + \beta_{SUM}x_{SUM} + \beta_{CY02}x_{CY02} + \beta_{PT}x_{PT} + \beta_{INC}x_{INC} + \beta_{HD}x_{HD} + \varepsilon)$$

where $\beta_{HD}x_{HD}$ represents the addition of the dummied proxy variable home demolitions, $\beta_{PT}x_{PT}$ represents the addition of the dummy variable for peace talks and $\beta_{INC}x_{INC}$ represents the addition of the dummy variable for instances of major incursions.¹¹⁷

Our hypothesis is that the factors discussed in the preceding section are influential in the levels of Palestinian attacks. The introduction of these variables should produce a negative coefficient (i.e., do not promote Palestinian attacks) if, for example, peace talks stir hope, but would generate a positive coefficient (i.e., promote Palestinian attacks) if these variables were seen as provocative or as a betrayal by Palestinian observers. Based

¹¹⁷ For “peace talks” and “incursions,” we simply coded these variables as being either present or absent during the monthly time scale used throughout this thesis. For “home demolitions,” we used the empirical data from B’Tselem. See B’Tselem, “Statistics.” And as a reminder from our Data and Methods discussion earlier in this chapter, we used Stata 10’s *ipolate* function to linearly extrapolate to missing values on this variable.

on our earlier research, we expect to see a strongly positive coefficient in both the incursion and home demolition variables with a smaller negative coefficient for the peace talk variable.

<i>Dependent Variable: Palestinian Attacks (resulting in Israeli deaths)</i>	Iteration (1)	Iteration (2)	Iteration (3)	Iteration (4)	Iteration (5)
Targeted Killing	.07909 (0.0296406)***	.0710679 (.0351212)**	.0756638 (.0379115)**	.0898683 (.0376532)**	.0868433 (.0268772)***
Kilometers of Anti-Terrorism Fence Completed (per 10 km)	-.0481516 (.0137842)****	-.039109 (.013887)***	-.0403573 (.0144412)***	-.0177135 (.0169507)	-.0293878 (.0176429)*
Detainees (per 100 detainees)	-.0059536 (.0063514)	-.0082295 (.0065457)	-.0108311 (.0070556) [#]	-.0226457 (.0082659)***	-.0170022 (.0082231)**
Non-Targeted Killing		.0088188 (.0060926) [^]	.0120916 (.0059949)**	.013895 (.0044081)***	.0109693 (.0028118)****
Targeted Killing (lagged by 1 Month)			.0081596 (.02999)	.0254436 (.0301812)	-.0102761 (.0359576)
Palestinian Attacks (lagged by 1 Month)			-.0476828 (.0262158)*	-.0836695 (.0222317)****	-.0833494 (.0186891)****
Summer				.3004585 (.1195124)**	.2544755 (.1120347)**
2002				.4187588 (.1701267)**	.3232536 (.1615129)**
Peace Talks					.2591841 (.105307)**
Israeli Incursions into the Occupied Territories					.2497864 (.1383809)*
Palestinian Homes Destroyed					-.0174572 (.0105139)*
Constant	1.775083 (0.1566742)****	1.533947 (.2140839)****	1.742337 (.2472228)****	1.859897 (.2235774)****	1.864889 (.1852892)****
Observations	98	98	98	98	98
Pseudo-Log Likelihood	-157.80254	-154.29693	-152.60996	-148.18801	-145.50173
Pseudo R-squared	0.3789	0.3927	0.3993	0.4167	0.4273
BIC	333.945	331.5187	337.3147	337.6407	346.0231
AIC	323.6051	318.5939	319.2199	314.376	315.0035

Robust standard errors in parentheses.

****significant at .1%; ***significant at 1% level; **significant at 5% level; *significant at 10% level

[^]This value was .048 away from being significant at the 10% level

[#]This value was .025 away from being significant at the 10% level

Table 6. Analysis of the Baseline Model, Adding Non-Targeted Killing, Lagging Targeted Killing and Palestinian Attacks, Controlling for Summer and 2002, Adding Peace Talks, Incursions and Homes Destroyed.

In Table 6, the most surprising finding is the impact of the Israeli demolition of homes in the Occupied Territories. Our hypothesis was rejected by the regression analysis results, as the outcome for the home demolitions variable was statistically significant, yet with a negative effect. What would appear to be a highly provocative action by the Israelis appears to yield an impact on Palestinian attacks that is on par with arrests and just slightly less effective than construction of the Anti-Terrorist Fence. This suggests that not only do home demolitions not lead to a subsequent increase in Palestinian attacks, this line of operation—that may be the only kinetic Israeli action to behave this way—appears to actually reduce follow-on levels of Palestinian attacks.¹¹⁸

The impact of peace talks produced a statistically significant, highly positive coefficient. Initially, this finding was also surprising given the purpose of the peace talks. However, a review of the literature suggested that Palestinian subversion of the peace process should not be unanticipated, and in fact, extremists groups within the Occupied Territories have a history of disrupting (and destroying) Israeli-Palestinian peace negotiations via the purposeful instigation of violence.¹¹⁹

Not surprisingly, Israeli incursions into the Occupied Territories produced a positive coefficient with statistical significance at the 10 percent level. This line of operation, both in the results of our regression analysis and in our non-empirical research, produces a strong reaction from Palestinian groups and is highly correlated with increased levels of Palestinian attacks. However, this finding may be clouded by suspected covariance with the non-targeted killing or targeted killing coefficients. Thus, its predictive value may be less trustworthy than the empirical results alone suggest.

Of note, the effect of the control variables of “summer” and “2002” declined slightly from the previous model, but this does not diminish the significance of the finding that the occurrence of peace talks and incursions appears to drive levels of

¹¹⁸ This finding should not be taken as an endorsement of these demolitions, but may provide insight into more effective ways to approach analogous situations. For example, home demolitions reduced Palestinian attacks, but in the future perhaps a less kinetic form of upsetting enemy sanctuary may be employed to similar affect without resorting to such a draconian method for this disruption.

¹¹⁹ See, for example, Andrew Kydd and Barbara F. Walter, “Sabotaging the Peace: The Politics of Extremist Violence,” *International Organization* 56, no. 2 (Spring 2002), 263–296.

Palestinian attacks higher. Furthermore, although the standard error for these dummy variables is relatively large, the impact is greater than any other variable except the control variables.

The variable coefficient statistical significance has increased from the fourth model, and the standard errors have, on balance, reduced slightly with the introduction of the dummy and proxy variables, suggesting that this model may be slightly more adequate than that of previous iterations. The BIC score is also the highest of all the iterations. Furthermore, as noted in all previous iterations, the targeted killing coefficient remains positive, while the Anti-Terrorist Fence and detentions coefficients remain negative. Overall, the fitness and constant scores for this model suggest it may not be as adequate as our earlier iterations, but it yields a more complete picture of the interactive and iterative nature of Palestinian-Israeli violence during the Second Intifada.

E. GROUNDING THE RESULTS

As we conclude this chapter, we present a somewhat different look at the data in an attempt to ground the above analysis in some kind of “real world” context. While the iterative regression analysis we have thus far discussed is certainly useful and helps to illuminate whether Israel’s lines of operation are contributing to or detracting from the overall level of Palestinian attacks, some may consider the analysis too abstract or technical.¹²⁰ In this section, we attempt to add a level of comprehensibility to the variety of values in the above tables. The lens through which we have chosen to present this data is the percentage change in expected counts.

In Table 6, we present the variables of our model in terms of the percent change in expected count for unit increase in X . That is, as the count of each independent variable increases (or decreases) by one unit of measure (i.e., an episode of targeted

¹²⁰ We recognize that regression analysis of this kind can have a fair number of critics. With the mathematical modeling process, we (by design) attempt to simplify an otherwise complicated set of interrelated factors. Charges that modeling provides a too-scripted, too-idiosyncratic, too-simplistic and/or too-predictive “recipe” for understanding complicated problems are well-understood. While we recognize that simply “telling the story” may be a more approachable treatment, as we discussed in Chapter I, doing so does not address the interrelated nature of causal relationships among the variables.

killing, 10 kilometers of Anti-Terrorist Fence constructed, *inter alia*), the dependent variable is affected by a specific percent change.

In Iteration 5 of our modeling process, with each episode increase in targeted killing, we can expect the level of Palestinian attacks to *increase* by 9.1 percent. Conversely, in the same iteration, Anti-Terrorist Fence completion carries a -2.9 percent change in expected count. Thus, with each additional ten kilometers of Fence completed, we can expect the level of Palestinian attacks to *decrease* by 2.9 percent. It is important to keep in mind that these results are based on the aggregated analysis of the data. That is, while it may be true that targeted killing serves to increase Palestinian attack levels by 9.1 percent, that increase is seen over the entirety of the dataset (October 2000-December 2008). Individual episodes of targeted killing will likely have different results, but over the breadth of the conflict, a 9.1 percent increase in Palestinian attacks is expected.

<i>Depent Variable: Palestinian Attacks (resulting in Israeli deaths)</i>	Iteration (1)	Iteration (2)	Iteration (3)	Iteration (4)	Iteration (5)
Targeted Killing	8.2	7.4	7.9	9.4	9.1
Kilometers of Anti-Terrorism Fence Completed (per 10 km)	-4.7	-3.8	-4.0	-1.8	-2.9
Detainees (per 100 detainees)	-0.6	-0.8	-1.1	-2.2	-1.7
Non-Targeted Killing		0.9	1.2	1.4	1.1
Targeted Killing (lagged by 1 Month)			0.8	2.6	-1.0
Palestinian Attacks (lagged by 1 Month)			-4.7	-8.0	-8.0
Summer				35.0	29.0
2002				52.0	38.2
Palestinian Homes Destroyed					-1.7
Peace Talks					29.6
Israeli Incursions into the Occupied Territories					28.4

Table 7. Percent Change in Expected Count.

When viewed in terms of the percentage change in expected count, the various lines of operation take on a bit more concrete meaning. Rather than simply determining which independent variables are acting to reduce or increase the dependent variable, our model now begins to place relative weights of effort for each independent variable. This is potentially illuminating when couched in terms of the decision making processes involved in deciding which and how much of various lines of operation fit within Israel's overall strategy.

F. CHAPTER CONCLUSIONS AND THE WAY AHEAD

As we have argued throughout this thesis, the interrelated nature of the variables at work during the Second Intifada underscore the need to first untangle the operative variables to then derive the relative weights of effort within this system of violence. This chapter's opening vignette serves to reinforce our claim. Unlike the more basic analyses in Chapter II, regression analysis proved to be a more useful tool with which to unpack Israeli's various lines of operation. Through this analysis we discerned which lines of operation actually contributed to or reduced the levels of Palestinian attacks against Israel (in the aggregate). In all iterations, targeted killing was shown to actually contribute to an increase in Palestinian attacks. Whereas other study variables, such as the Fence and detentions, were shown to significantly reduce these attacks.

In the next chapter, we will take a step back from this detailed level of analysis and draw out those conclusions that are perhaps useful in a broader context. We can now perhaps make the claim that Israel is better able to, at a minimum, conduct an informed cost-benefit analysis when employing its various lines of operation. In other words, Israel can (and does) still choose to conduct targeted killing operations. Current literature suggests this is done without understanding whether or why targeted killing is helping. We submit that Israel can now begin to discern that by conducting targeted killing operations, Palestinian attacks are likely to increase (in the aggregate). However, that cost can be balanced against other potential benefits, such as increased Israeli morale or political clout in order to prosecute other, effective lines of operations.¹²¹

In any event, this model begins to provide a framework for understanding of the relative efficacy of various lines of operation in Israel's counterterrorism strategy—an understanding that has proven elusive in the current literature.

¹²¹ By "effective," we simply reference those factors that were determined to have an overall reducing effect on the level of Palestinian attacks; e.g., construction of the Fence.

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IV. LESSONS LEARNED AND POLICY IMPLICATIONS FOR TARGETED KILLING

A. WHAT HAVE WE DONE?

We began this thesis with the general premise that Israel's program of targeted killing suffered from a lack of understanding concerning the effects and effectiveness of such a program. The current literature made claims that were not fully supported. Critics of the program offered evidence that the program was illegal, immoral or ineffective. Proponents of the program provided evidence to the contrary. Ultimately, however, we claimed that the state of the current literature hinted at the complex and tangled reality of targeted killing efficacy—a reality that required further study.

As we demonstrated in each analytic iteration of Chapter III, Israeli targeted killing operations during the Second Intifada were shown to be highly correlated, in a statistically significant way, with increased levels of Palestinian violence (in the aggregate). And we draw this conclusion, not based on a simple analysis between two variables. Rather, we draw this conclusion from the mathematical modeling of a host of other independent variables interacting with (or in concert with) targeted killing. In so doing, we also determined the relative weights of effort for a number of Israel's counterterrorism lines of operation. We determined that construction of the Anti-Terrorist Fence and an increase in Palestinian detentions, for example, work to reduce the overall level of Palestinian attacks. Because of our modeling process, and the fact that we attempted to account for a range of factors impacting this system of violence, we feel more confident in our conclusions than perhaps previous treatments of this topic allow.

So, do we now better understand the causal mechanisms involved in targeted killing? We argue, yes. Our modeling process, far from simply disproving a positive correlation between Israeli targeted killing and Palestinian attacks, demonstrated a statistically significant correlation between targeted killings and increased numbers of Palestinian attacks against Israel. And we not only determined whether targeted killing “works” for Israel, but we also determined how Israel's other lines of operation serve to

impact that system. This thesis yields a better understanding of the dynamics inside this system of violence and what part targeted killing actually plays.

B. WHAT ARE THE IMPLICATIONS OF OUR FINDINGS?

What does this all mean? Is targeted killing, then, as bad as its critics claim? Should Israel (and other states prosecuting counterterrorism strategies) abandon a program of targeted killing? Not necessarily. While our analysis certainly does not help advocates of Israel's targeted killing program, we believe perhaps the larger lesson to be drawn from our analysis rests in a state's ability to make a better-informed decision vis-à-vis its targeted killing program. We readily admit that there is more going on in the Israeli case study than perhaps is being captured by our model. That is, while we have demonstrated that targeted killing is not helping Israel achieve its stated strategic desired end state of reducing numbers of Palestinian attacks, perhaps it is the case that the effects of targeted killing may help facilitate pursuit of other Israeli interests. For example, while national security is, at times, an all-consuming concern for Israel, and with all due deference to the perceived existential nature of the threat facing that state, reducing the level of Palestinian attacks is not the only national interest Israel faces on a recurring basis. That is, Israel is not concerned *just* with its security. Domestic and economic interests, national unity concerns, and the (re-)electability of Knesset members are but a few of Israel's competing concerns.

The point is that by knowing the effects of targeted killing operations, the national decision making establishment is presumably better able to understand the trade-offs of targeted killing vis-à-vis potential benefits in the *other* systems of which Israel is concerned. We argue that Israel is now better situated to more accurately make the decision whether or not to employ targeted killing and when to do so. Israel can now better understand the assumption of risk in choosing to prosecute targeted killing

operations, knowing there is the potential for an increase in Palestinian attacks, but realizing that it may actually accrue benefits in other arenas—benefits that are worth the risk that targeted killing presents.¹²²

As we conclude this section, we want to address the claim that this case study and our resulting model are too idiosyncratic to be of use to other, novel cases. While that may be true, we have taken care to generalize the ideas in this chapter to the point of being applicable to other state's treatment of targeted killing. At a minimum, if we have convincingly argued the importance of systematically thinking through the problem, linking the tactical to the strategic, we have succeeded. While admittedly short of conclusively settling the debate between proponents and opponents of targeted killing, our proposed methodology provides precisely such a vehicle for the kind of systematic thinking that can illuminate clearer decision making vis-à-vis targeted killing.

C. WHAT WE DID NOT DO: POSSIBILITIES FOR FUTURE RESEARCH

Though we explored the case of the Second Intifada in some detail, we must be clear that our thesis leaves some gaps. Two areas remain for future research. First, additional research and analysis for variables within the Second Intifada case were not examined in this case and may yield additional insight. Second, we did not test our model against other cases outside the Second Intifada. Either approach, we argue, may potentially provide further insight on this topic.

Though the final iteration of our model captures many significant variables, we did not measure or capture all possible elements of the Israeli case. Further research can explore within the case and develop a more robust model. Within case research could center on either adding additional variables or focusing on more spatial or temporal aspects of analysis. Additional variables that were considered, though not included, were the morale effect of targeted killing operations (for both Israeli and Palestinian groups),

¹²² By way of a minor example, perhaps targeted killing, while not shown to reduce Palestinian violence, actually affords the Israeli government the political cover to pursue construction of certain sections of the Anti-Terrorist Fence—an endeavor that receives a fair amount of criticism from within and without Israel and the Occupied Territories. Here we cited the admittedly dated information that in 2001, nearly 90 percent of Israelis polled supported a program of targeted killing. See Steven R. David, “Fatal Choices.” 1–26.

the political machinations of the Israeli Knesset election cycles, and the impact of “outside” actors or events on the system of violence in the Second Intifada. Lastly, we took an admittedly Israeli-centric view of this problem. There is analytic richness to add by including more variables associated with the Palestinian actors involved. As part of this Palestinian-oriented analysis, future researchers may choose to focus on the impact of intra-Palestinian violence and intra-Palestinian group competition for popular support. Questions of the effects of such intra-group actions may lead to a further examination of what we termed the “wearing out” effect in Chapter III.

Though we claim that our analysis of the Second Intifada is robust, we readily admit that we did not extend this analysis to test the model against other cases. Out-of-case tests are welcome, and examples of such potential test cases abound. As mentioned in Chapter I, history offers numerous datasets with which to test our methodological procedure.¹²³ Alternatively, contemporary U.S. cases seem particularly appropriate for in-depth analyses. Current U.S. counterterrorism efforts in Operations Iraqi Freedom and Enduring Freedom would also make for robust test cases in terms of the effects generated. Analyzing these effects within the model would, we argue, provide much needed insight into the employment of these sometimes controversial operations.

D. CONCLUSION

So, what is the problem with targeted killing? The problem is not simply the legal and moral grounds for the policy. The problem is also not simply the tactical implementation of the policy. Rather, the problem is that current research has not been able to convincingly articulate the effects of implementing a targeted killing program—legally justified or not. Is targeted killing useful? This seems like a simple question, one however, that upon examination is quite complex. It is this complexity that has unraveled previous attempts to understand the efficacy of targeted killing.

¹²³ We have explored preliminary research in the case of the United States’ Phoenix Program in the Vietnam War. Such a case makes for a nice comparison though not a perfect fit, as the U.S. was prosecuting a war “by, with and through” the South Vietnam government. Regardless of the specific inter-case variations, the lines of operation in the Phoenix Program are similar to those used by Israel during the Second Intifada.

This thesis examined Israel's use of targeted killing during the Second Intifada to untangle the complexity of the causal relationships involved. We simplified the complex reality via the use of a robust analytic process of mathematical modeling, accounting for a variety of factors influencing the system of violence. We embedded our resulting model in a useable framework that can enable decision makers to make better informed decisions regarding the associated costs and benefits of employing a program of targeted killing. Regardless of the analytic outcome, we believe the development and application of our methodological process may be more important than simply concluding whether targeted killing is useful or not.

While our analysis indicates targeted killing is ineffective in the Israeli case study (vis-à-vis that country's stated strategic desired end state), we leave it to future researchers to test our model against other cases to determine a more broad applicability of our methodology. Future tests may determine that targeted killing was effective in certain cases. Therefore, we suggest future applications of such a model and methodology are critical to both understanding the effects of such a program, as well as drawing more universal conclusions on the efficacy of targeted killing.

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